

HIGHER EDUCATION AND GRADUATE EMPLOYMENT: UNIVERSITY
TRADITIONS AND ECONOMIC PLANNING IMPERATIVES - A CASE STUDY
OF TAIWAN (THE REPUBLIC OF CHINA) WITH REFERENCE TO BRITAIN
AND THE ^{USA}~~UNITED STATES OF AMERICA~~

by
San San Shen

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ABSTRACT

The employment problems of graduates in Taiwan are explored in terms of conflicting ideas of higher education. The unemployment rate of graduates with higher qualifications has been increasing for a decade. An increasing number of graduates are engaged in jobs which, in the past, demanded only high school qualifications. There is little or no relationship between the requirements of the job and the knowledge and skills graduates acquired in higher education.

Conflicting ideas of higher education are identified as an obstacle to solutions of graduates' employment problems. These ideas can be categorised by two models. One is the traditional idea of higher education, especially that universities should teach the liberal arts and should aim to foster virtue. Useful and practical knowledge and skills have been thought unsuitable. Confucian ideas of education can be linked to this view. The second model is that higher education should respond to the needs of society and the economy and that the curriculum of higher education naturally should refer to the content of job.

This conflict between economic and traditional functions of higher education is serious in Taiwan. The revival of Confucian education was a government reaction to the Cultural Revolution in Mainland China. On the other hand, economic and manpower planning has been a government policy with economic implications for higher education. This conflict means that employment problems of graduates must be considered in their wider cultural and social aspects.

The conflicting ideas of higher education are investigated in the process of graduates moving from university to work. There are four aspects: manpower planning and higher education policy; collaboration between university and industry; graduates' aspirations for jobs; and careers guidance and counselling in universities and colleges.

The final part of the thesis reports the results of analysis of the views of academics and students in Taiwan. This investigation uses questions derived from the two models developed earlier.

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INTRODUCTION

The expansion of higher education from the 1950s was initiated by the combination of government policies and popular aspirations. Both were based on hopes of economic growth at either a collective or an individual level. When increasing number of graduates in the late 1970s and early 1980s failed to achieve jobs commensurate with their educational attainments, the economic policies of government and occupational aspirations of students were examined closely. But in neither the periods of expansion nor in times of unemployment were the values and roles of those in higher education examined closely. How far did academics - and indeed, the students after exposure to academic life - share the belief that higher education should contribute to economic development? The central proposition examined in this thesis is that graduate unemployment may be related to long-standing academic values which the expansion of higher education did not change.

These phenomena were experienced throughout the world. Yet the case of Taiwan is particularly illustrative and puzzling. Taiwan achieved a rate of economic growth and a transformation from an agricultural to an industrial economy in the 1960s and 1970s which, in global terms, was only rivalled by a few other east Asian countries. Furthermore access to higher education in Taiwan, even in the period of expansion, has been quite strictly controlled by academic criteria. Graduate unemployment at serious and chronic levels in Taiwan is very surprising if the phenomenon is viewed simply as the product of unrealistic economic aspirations of both government and intending students.

Yet the relationship between government, economy and university in Taiwan has unusual features, especially compared with other east Asian countries. Government has pursued manpower planning policies thoroughly. Yet the rights of universities to admit students and to teach them as they think fit have not been challenged. At the other end of the forces, employers in Taiwan have expected universities to equip their new employees with the basic knowledge and skills necessary to do their jobs and have not developed effective on-the-job training. In Taiwan the role of academics in frustrating economic intentions of both government and industry can be examined fruitfully.

The Expansion of Higher Education, Graduate Unemployment and Academic Values: Global Changes and the Taiwanese Case

Higher education expanded rapidly throughout the world between the 1950s and the 1970s. In the United States, the number of students in universities and colleges increased from 15.1 to 52.3 per thousand inhabitants between 1950 to 1972. Similarly, about the same period, student numbers greatly increased in Western European countries - in the United Kingdom four-fold, in France five-fold and Sweden six-fold. The number of students in Japan's higher education system also quadrupled(1). In Taiwan (the Republic of China), students in higher education increased about nine times in this period(2).

Some justifications for this expansion were derived from economic theories and from theories of social development. In the first case it was assumed that the more advanced the education of a country, the greater would be its economic progress. In the latter, social development is assumed to

follow a linear and evolutionary pattern of transformation from "traditional" or "primitive" to modern "advanced" societies. Education is thought of as essential to building a modern society. In addition, social ideals prevailing in the 1960s - such as "equal educational opportunity" and "social justice" - encouraged the expansion of higher education.

This expansion did realise some of the objectives pursued by educationalists and by economists. More members of lower social classes went to universities. The higher education sector produced more qualified candidates for the labour market. However, the expansion also created many problems. The most important was graduate unemployment and underemployment. Since the mid-1970s, when the golden age of higher education expansion came to an end, graduates have been less able to achieve high level jobs. Some did not find any kind of work. These problems provoked a great deal of research, but the solutions proposed have not answered the problem adequately.

The search for solutions to graduate unemployment and underemployment from economic perspectives has not been fruitful. These approaches assume that higher education makes a contribution to economic growth by providing qualified manpower. Therefore, most solutions have proposed that the improvement of graduates' employability requires cultivation of their practical knowledge, training in specific skills and providing information about employment opportunities. These solutions ignored some difficulties of graduate unemployment and they were not as effective as expected. Traditional cultural values of higher education still prevail in universities and society, vocationalised

higher education has not been fully accepted nor put into practice. Therefore, the main purpose of this study is to clarify the ideological conflicts within higher education before searching for solutions to graduate employment problems.

The relationship between education, particularly higher education and economic development was seen to be very close after the end of the Second World War. Education was considered an effective way to promote economic growth and national modernisation. When human capital theories were proposed in the 1960s, the connection between higher education on the one hand and national economic development and individual earnings on the other was seen to be strong.

These theories influenced policy-makers after the War to expand education, and also affected the practice of education. Manpower planning was designed to guide educational institutions in supplying adequate numbers of graduates in various disciplines for the labour market. The content of education (or curriculum) was seen to have the purpose of meeting the specific needs of occupations, and careers services were provided for students seeking jobs.

This economic perspective on graduate unemployment is insufficient. There are weaknesses in economic theories of education. First, the relationship between educational qualification and individual income proposed by human capital theorists is not so certain when factors such as sex, race and home background are also taken into account(3). Secondly, the assumption in human capital theories that education increases individual productivity is doubted by those who assert the impart of education,

particularly higher education has little to do with content of teaching. Education for them is only a device to select the ablest students for employers or to provide individual signals to impress employers. Therefore the acquisition of education is not necessarily related to productivity. Thirdly, due to the difficulties of measurement, economic theories of education can only emphasise those items which are easy to measure in supply and demand sides (such as the years spending in education and the amount of earnings), non-economic factors which are difficult to measure are neglected.

Non-economic factors such as the values, ideologies and attitudes of university teachers, students and the public have received less consideration. However, they also may have an impact on the employment problems of graduates.

Since the emergence of economic justifications for higher education, traditional university values have been challenged. There has been debate about whether higher education in a modern (or industrialised) society should meet the needs of the labour market to supply manpower or instead should insist on traditional values and the cultivation of students' general knowledge without a major concern for economic needs.

In Britain (especially England) and ancient China education has had a long tradition of cultivating virtue and general knowledge. Newman's ideal of a liberal university ignored practical knowledge and skills. It was similar to Confucian traditions in ancient China and in contemporary Taiwan. Therefore, in both societies, there have been serious debates about whether the university's liberal

traditions should be maintained when economic competition becomes serious and when higher education is expected to contribute to economic growth by providing specialised manpower. In the United States, the economic function of higher education was recognised from an early date. However, for those who support the cultural and liberal ideas of the university, the overemphasis on the economic purposes of higher education will distort its development.

In this study conflicting economic and traditional values of higher education are assumed to influence graduate employment. Four policies and conditions which have been seen to influence the transition of graduates from university to work are studied: manpower planning and higher education policy; collaboration between university and industry; graduates' and undergraduates' occupational aspirations; and careers guidance and counselling in universities and colleges (Figure 1). While these policies and conditions have been seen as important from the economic perspective on higher education, traditional university values also have impact on the four areas. So detailed analysis of higher education and employment problems of graduates should also be considered from this non-economic angle.

Structure of the Study

There are two parts to the thesis. The first part will begin with a description of the general background of Taiwan's economic, political structure, educational development and the emergence of graduate employment problems. Then the conflict between economic and traditional values of higher education will be explored and a theoretical framework be set up for application in later

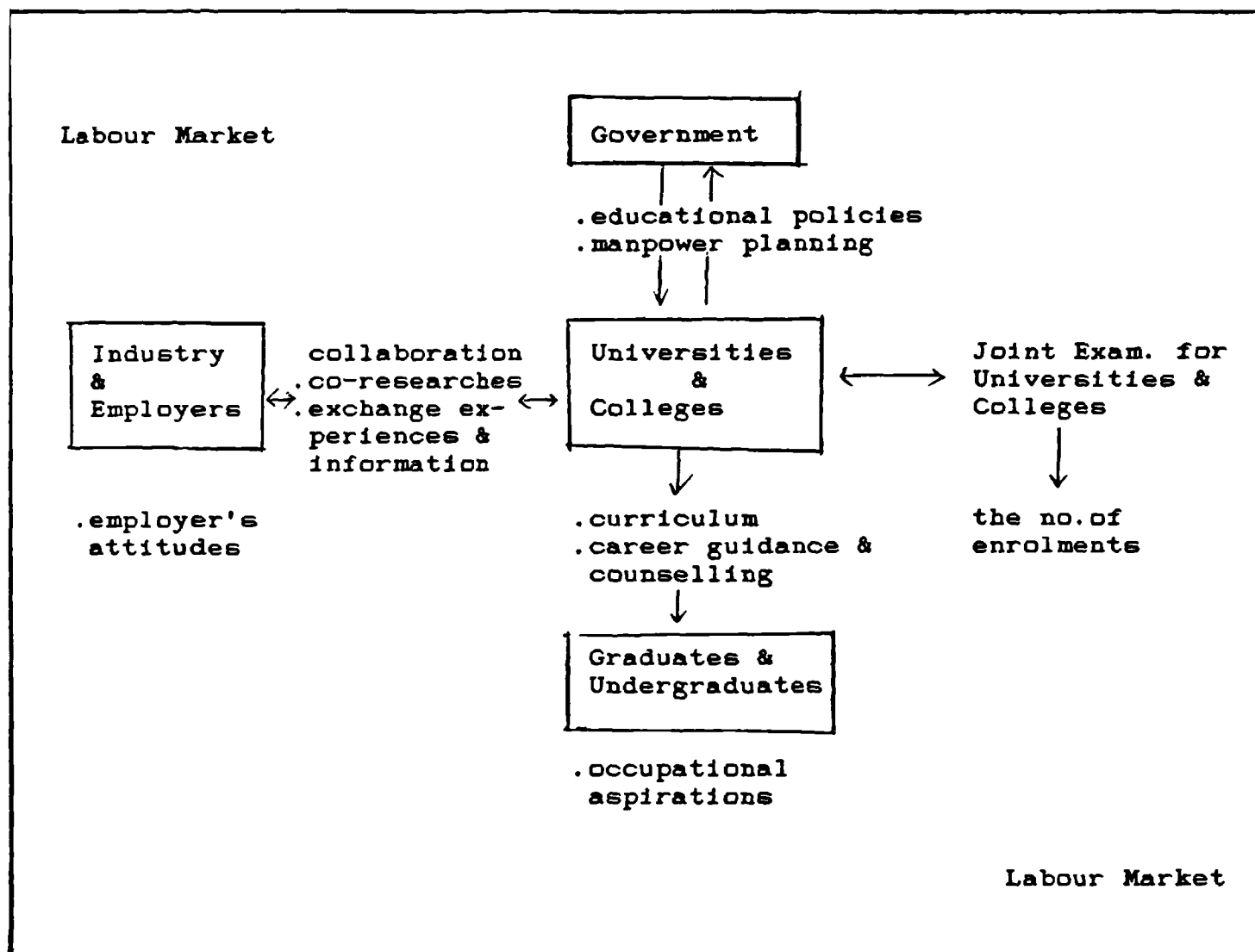


Figure 1 The Four Areas of Study: Government, Universities and Colleges, Industries and Graduates & Undergraduates

analysis in the second part of the four specific areas listed above.

The expansion of higher education in Taiwan, apart from the influence of demographic change and social demand, was mainly the result of the needs of the economy. Economic functions of higher education have been emphasised since the 1960s. The centralised political-administrative structure in Taiwan made it easier to direct educational institutions to meet economic needs. Political ideology has stressed economic development and has had a strong influence on educational ideology. A description of the political structure therefore is necessary. The school system of Taiwan was influenced by the American model and the elective system of the higher education curriculum has been adopted. The hierarchy of prestige among higher education institutions has had influenced students to want to choose a "good university". These areas will be described in chapter 1.

Since the 1970s, the declining labour market for graduates has been a phenomenon in many developed countries. The nature of this decline and its impact will be explored in chapter 2, which will also consider the differences and similarities of Taiwan's graduate unemployment problems with those in certain developed countries.

Chapter three and four will focus upon two different theoretical approaches to the employment problems of graduates. Human capital theories have justified the expansion of higher education and have had implications for the planning of higher education. However, these theories failed to predict the emergence of unemployment of

graduates. The analytical value of economic theories will be discussed in chapter 3.

The alternative explanation that guides this research is that the conflicting values of higher education have been obstacles to the efficient movement of graduates from university to work. Traditional ideas have held that higher education, especially universities, should teach liberal arts and virtue is emphasised in such liberal education. Useful and practical knowledge and skills have been thought unsuitable in this view of university education. These ideas existed in 16th century British education. In the 19th century Newman further developed them in his idea of the university. In ancient China, Confucian education had similar characteristics. In the so called gentleman education, a liberal and classical curriculum was emphasised; practical skills and knowledge were thought unsuitable for a gentleman. Both liberal ideas of education still survive in Britain and Taiwan despite the challenge of those who support an economic function for higher education. The comparison of Britain and Taiwan is mainly concerning with their traditionalism and the extent to which this traditionalism influenced the relationship between university education and graduate employment. The popularity of economic theories of education and their applications in higher education in the United States of America have been studied in order to understand their influence on Taiwan. This will be explored in chapter 4.

The second part of the thesis is based on documentary and field research in Taiwan including interviews and the administration of questionnaires. It seeks to illuminate the impact of conflicting ideas of higher education in four

specific areas. A chapter each is devoted to governmental higher education and manpower policies, collaboration between universities and industry, graduates' and undergraduates' occupational aspirations, and careers guidance and counselling for students. In each of these fields the conflict between economic function and liberal education conceptions of higher education will be the analytical starting point.

Comparative analysis. Case-study Field Work and Definition of Terms

Comparative analysis

Throughout this study, an international and comparative dimension is adopted to clarify graduate employment problems in two ways. First, the expansion of higher education and subsequent growth of graduate unemployment in Taiwan is related to similar developments in various industrial countries. The purpose is to establish how far there are common features between developments in these countries and in Taiwan and how far analyses originating in these other countries are appropriate to Taiwan.

Secondly, traditional values of higher education in Taiwan may be explored by comparison with traditional concepts in England and the more utilitarian tradition in the U.S.A.. This comparison is intended to illuminate the specific nature of traditional concepts of higher education in Taiwan and to explore how far it represents a powerful obstacle to resisting higher education to economic functions.

Case-study Field Work

The results of my questionnaires and interviews applied to university teachers, graduates and careers counsellors are reported in several separate chapters, mainly in the second part of the thesis. However, some of this information is used also in the first part (chapter 2 and 4). Information derived from interviews and questionnaires is often combined with that obtained from other research findings and from government reports. The structure and procedures followed in this field work are described in appendix 1 - 3.

The claim to originality of this research is not based exclusively either on the new data collected or on the analytical approach adopted. The field study data extends that of similar previous studies but with greater emphasis on traditional values of teachers and students in higher education. But this data has relevance because of its relationship to the analysis of traditional attitudes to higher education in Taiwan.

Definition of Terms

Some terms are used in this thesis in a specific ways. Higher education mainly refers to bachelor degree level education. Employment opportunities have been better for those with post-graduate qualifications in Taiwan. The employment problems of junior college graduates are not considered since the conflict between traditional and economic values in these institutions is less serious than in universities and independent colleges.

Underemployment can be of two kinds: one is "visible underemployment" involving shorter than normal periods of work, and the other is "invisible underemployment" which

refers to persons whose earnings are abnormally low, whose jobs do not permit full use of their capabilities or skills, or who are employed in establishments or economic units where productivity is abnormally low(4). Throughout the thesis, underemployment is used in the second sense, as the "visible underemployment" is not so serious for graduates in the labour market in Taiwan.

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PART I PROBLEMS AND THEORETICAL FRAMEWORK

**CHAPTER 1 ECONOMIC GROWTH, POLITICAL STRUCTURE AND
THE EXPANSION OF HIGHER EDUCATION IN TAIWAN
(R.O.C.)**

Before it can be asserted with any security that graduate unemployment in Taiwan is primarily the outcome of a failure of universities to adapt to economic change, a number of other contextual questions should be addressed. Did the pattern of economic development in Taiwan, particularly since the 1960s, create sufficient jobs for higher education graduates? Did government have the political power to orientate education towards economic needs? Was the school system effectively developed to give students entering higher education the skills and attitudes needed both for successful study and later application of these aptitudes in work?

The economic growth of Taiwan made people more able and desirous to receive higher education and the increase in qualified manpower entering the labour market accelerated economic development. In exploring the relationship between economic growth and the development of higher education, the first question to be asked is whether the emphasis by government on the economic function of higher education was the result of rapid industrial development? This emphasis would not have been so strong if Taiwan's industrial development had progressed more gradually. The question is also whether the employment problems of graduates are just a temporary phenomenon, resulting from the temporary inability of educational institutions to adjust the rapid economic development?

The centralised political system in Taiwan was effective in encouraging the supply of qualified manpower to promote economic growth. Central government controls over economic development and over the administration of education have been strong. This may allow for a stronger connection between the economy and education but may lead to inefficiencies if educational planning is misconceived.

Although the expansion of higher education was conducted mainly for economic reasons in Taiwan, the educational system and structure did not have to make any considerable adjustment. The educational system has been modelled partly on that of the U.S.A.. Common schools offer general education with little specialisation. With the rigid restrictions on the number of the enrolments to universities and colleges, the development of higher education could not really match the needs of the economy.

1.1 Economic Growth and the Development of Higher Education in Taiwan (1945-1988)

Taiwan's economic growth and its educational development are interdependent. Following W.W.Rostow, Taiwan's economy can be seen as having passed from the stage of traditional society, through the period of "take-off" and to be now at the stage of the drive to attain technological maturity(1). Rostow asserts Taiwan's economic take-off started in the period of 1953-1960 (2). From 1960 labour-intensive industrialisation occurred accompanied by an expansion of education at all levels.

After 1973 the effectiveness of the export-orientation was questioned and in the 1980s a shift to high-technology

industry began to occur. Through educational expansion slowing down in this later period, greater gaps between education and industrial needs appeared.

The Period of Reconstruction (1945-1952) : Higher Education in Underdevelopment

1945-1952 was a period of immense political change for Taiwan. After fifty-one years of Japanese occupation, Taiwan was returned to China in 1945. In 1949 the government of the Republic of China moved to the island from the mainland.

Japanese colonial policy was to industrialise Japan and agriculturalise Taiwan. Japan allocated to Taiwan the role of supplier of food and agricultural raw materials for Japan's expanding industrial economy. Taiwan's agricultural production was 36% of the gross domestic product at the end of the 1930s. It was a typical agrarian economy. At the same time, it was also a typical exporting economy - exports had increased to 50% of GNP. Most were destined for Japan.

The Japanese, understandably, had no intention of developing Taiwan's industry. However, in order to facilitate the transport and trade of Taiwan's agricultural products, it was necessary for the Japanese to invest in and develop a basic infrastructure of transport and communications and also certain basic industries such as electricity supply. During the Second World War industries, such as cement and fertilizer production and oil refining, were also set up in support of Japan's war effort. Whatever may be said about her motives, Japan did construct the base for Taiwan's economic development.

During the Japanese occupation, the development of Taiwan's higher education and vocational education systems had been very restricted. The Japanese did not want to develop Taiwan's higher education, according to P.E.Tsurumis, because they were afraid that higher education would encourage unrest and rebellion (3). As a result, there were few highly qualified personnel in the labour market. After the retrocession of Taiwan, nearly 30,000 Japanese technical, managerial and professional personnel left. This was one reason for the slow down of industrial development. GDP actually fell. The number of qualified and experienced personnel arriving from mainland China after 1949 was not sufficient to fill all the gaps. After 1945 Taiwan experienced a great shortage of highly qualified manpower.

This urgent need for educated manpower was acknowledged by the central government of the Republic of China, but at that time the spare administrative energy and economic resources did not exist to provide for the satisfaction of that need. The central government was fully engaged in reconstructing the economic system and was only able to develop primary and secondary education. Higher education was neglected.

Before economic development could take place it was necessary to accomplish the recovery of Taiwan's agricultural production. There were two reasons for the policy: first, to satisfy the basic living needs of the increasing population and, second, to set up the agricultural base for industrial development. Therefore, a series of land reforms - land rent reductions and "land to the tiller" programmes - were implemented. However, due to

serious damage of the War, agricultural production did not match its prewar peak until 1958.

To reconstruct industrial production was an even more difficult task. The real value of industrial production in 1946 was only a quarter of the 1937 figure. By 1950, it just reached 70% of that of 1937. Serious damage to productive equipment was one reason. Also the shortage of foreign exchange made it difficult to import replacement machinery. As a result, the production of many items, for example, electrical power, steel, sugar, canned pineapples, tobacco and wine, did not reach their prewar levels until 1950 (4).

The government's energies were largely directed at solving these immediate economic problems with the result that educational development was relatively neglected (5). In the 1952 academic year the number of primary schools was only 1,251, with 1,003,304 pupils, and of secondary schools only 214, with 139,388 pupils. There were only eight institutions of higher education catering for a total of only 10,037 students. The proportions of the total population receiving primary, secondary and higher education were respectively 12.34%, 1.71% and 0.21% (6). Education was underdeveloped even in terms of crude quantitative measures.

Agricultural production dominated the composition of the labour force. In 1946 70% of the labour force over the age of 12 was engaged in the agricultural sector and only 6.1% was employed in the industrial sector. The primitive agricultural sector did not need highly-skilled labour. Those basic skills and techniques required could be acquired

in the traditional ways, such as apprenticeship and father-son lineage. As a result, there was only a little formal agricultural or industrial education, carried out in a limited number of vocational schools.

In higher education, in 1952, the majority of students specialised in engineering (25.8%), social sciences (19.32%) and humanities (19.12%)(Table 1-1). The reason that the number of students specialising in engineering was larger than other disciplines could be the influence by Japanese colonial educational policies, which allowed students to study only vocational subjects, such as medicine and engineering. 12.26% were enrolled in agriculture as a major subject. Even though the proportion of those specialising in agriculture was small, it was already high enough for the agrarian economy of Taiwan at this time. In later years the proportion taking agriculture declined even further (in 1960, it was 8.7% of all enrolments, 1970, 5.64%, and 1987, 3.15%)(Table 1-1).

The Import Substitution Period (1953-1960) : Higher Education in Steady Growth

Rostow believed that economic take-off is "the great watershed in the life of modern societies"(7). He stated that in the period of take-off:

"the old blocks and resistances to steady growth are finally overcome. The forces making for economic progress, which yield limited bursts and enclaves of modern activity, expand and come to dominate the society. Growth becomes its normal condition"(8).

Rostow asserted that Taiwan's take-off happened during the period between 1953 and 1960. During this period Taiwan was

Table 1-1 Proportions of University and College Students in Different Fields (1952-1987)(%)

| Year | Total | Humn. | Educ. | Agri. | Law | S.Sci. | N.Sci. | Engr. | Med. | Art |
|------|-------|-------|-------|-------|------|--------|--------|-------|-------|------|
| 1952 | 100. | 19.12 | 4.77 | 12.26 | 3.71 | 19.32 | 6.90 | 25.80 | 3.24 | 2.87 |
| 1953 | 100. | 17.39 | 4.52 | 11.69 | 4.30 | 19.01 | 5.72 | 29.45 | 3.13 | 2.77 |
| 1954 | 100. | 15.02 | 4.28 | 12.52 | 6.00 | 18.31 | 5.68 | 29.39 | 3.70 | 2.65 |
| 1955 | 100. | 13.62 | 5.78 | 11.21 | 6.76 | 23.29 | 6.21 | 24.58 | 3.92 | 2.23 |
| 1956 | 100. | 15.89 | 5.23 | 10.50 | 6.68 | 24.29 | 6.56 | 22.04 | 3.88 | 2.12 |
| 1957 | 100. | 16.85 | 5.34 | 9.77 | 6.43 | 24.56 | 7.11 | 21.64 | 4.52 | 2.17 |
| 1958 | 100. | 17.57 | 4.95 | 9.13 | 4.83 | 23.51 | 8.60 | 20.74 | 5.64 | 3.48 |
| 1959 | 100. | 17.64 | 4.71 | 9.17 | 4.21 | 22.78 | 9.48 | 20.99 | 7.35 | 3.30 |
| 1960 | 100. | 18.14 | 4.71 | 8.70 | 3.26 | 25.19 | 9.25 | 19.85 | 7.77 | 2.84 |
| 1961 | 100. | 17.17 | 5.59 | 8.76 | 3.42 | 24.59 | 9.76 | 19.58 | 8.21 | 2.66 |
| 1962 | 100. | 15.35 | 7.83 | 8.17 | 3.36 | 26.60 | 9.46 | 17.65 | 8.74 | 2.64 |
| 1963 | 100. | 15.44 | 7.90 | 7.87 | 3.03 | 28.09 | 8.64 | 16.43 | 9.07 | 3.20 |
| 1964 | 100. | 14.32 | 7.97 | 7.06 | 2.62 | 31.77 | 7.92 | 15.45 | 8.83 | 3.71 |
| 1965 | 100. | 12.21 | 7.56 | 6.38 | 1.94 | 38.37 | 6.46 | 15.14 | 8.38 | 3.10 |
| 1966 | 100. | 10.65 | 6.83 | 6.37 | 1.65 | 38.93 | 5.59 | 18.00 | 8.94 | 3.05 |
| 1967 | 100. | 10.09 | 6.91 | 6.08 | 1.51 | 38.49 | 5.29 | 19.49 | 9.49 | 2.66 |
| 1968 | 100. | 9.26 | 6.60 | 6.30 | 1.48 | 37.97 | 5.02 | 20.38 | 9.97 | 3.01 |
| 1969 | 100. | 8.95 | 6.69 | 5.80 | 1.49 | 36.53 | 5.23 | 22.56 | 9.99 | 2.75 |
| 1970 | 100. | 9.52 | 6.79 | 5.64 | 1.40 | 34.14 | 5.14 | 24.52 | 10.17 | 2.68 |

(continued)

(continued)

| Year | Total | Humn. | Educ. | Agri. | Law | S.Sci. | N.Sci. | Engr. | Med. | Art |
|------|-------|-------|-------|-------|------|--------|--------|-------|------|------|
| 1971 | 100. | 9.74 | 7.26 | 4.94 | 1.40 | 33.00 | 5.42 | 25.04 | 9.81 | 3.39 |
| 1972 | 100. | 9.60 | 10.15 | 4.12 | 1.29 | 31.37 | 5.31 | 26.27 | 8.61 | 3.29 |
| 1973 | 100. | 9.73 | 9.45 | 3.96 | 1.22 | 31.60 | 5.55 | 28.08 | 7.84 | 2.57 |
| 1974 | 100. | 9.71 | 8.38 | 3.71 | 1.18 | 31.92 | 5.13 | 29.92 | 7.38 | 2.66 |
| 1975 | 100. | 10.04 | 7.33 | 3.57 | 1.29 | 31.75 | 4.77 | 30.34 | 7.37 | 3.53 |
| 1976 | 100. | 9.92 | 6.54 | 3.55 | 1.31 | 32.27 | 4.83 | 31.27 | 7.27 | 3.02 |
| 1977 | 100. | 9.50 | 6.20 | 3.52 | 1.31 | 32.61 | 4.71 | 31.87 | 7.23 | 3.05 |
| 1978 | 100. | 9.09 | 6.03 | 3.51 | 1.30 | 32.44 | 4.77 | 32.48 | 7.35 | 3.03 |
| 1979 | 100. | 8.75 | 5.82 | 3.46 | 1.28 | 32.16 | 4.68 | 33.33 | 7.60 | 2.92 |
| 1980 | 100. | 8.45 | 5.95 | 3.49 | 1.28 | 31.84 | 4.48 | 33.63 | 7.78 | 3.10 |
| 1981 | 100. | 7.82 | 4.82 | 2.92 | 1.29 | 32.29 | 6.80 | 33.60 | 7.83 | 2.62 |
| 1982 | 100. | 7.61 | 5.71 | 2.65 | 1.28 | 32.29 | 5.88 | 34.28 | 7.81 | 2.39 |
| 1983 | 100. | 7.39 | 5.14 | 3.06 | 1.26 | 31.91 | 2.76 | 32.56 | 7.99 | 1.97 |
| 1984 | 100. | 7.19 | 5.60 | 3.07 | 1.24 | 30.63 | 2.75 | 32.69 | 8.33 | 1.94 |
| 1985 | 100. | 7.05 | 5.62 | 3.07 | 1.25 | 29.62 | 2.79 | 32.76 | 8.31 | 1.99 |
| 1986 | 100. | 7.00 | 4.79 | 3.16 | 1.25 | 28.80 | 2.77 | 32.92 | 8.48 | 2.03 |
| 1987 | 100. | 6.81 | 4.33 | 3.15 | 1.26 | 27.60 | 2.76 | 33.20 | 8.56 | 2.06 |

key:

Humn.: Humanities; Educ.: Education; Agri.: Agriculture
 S.Sci.: Social sciences; N.Sci.: Natural sciences
 Engr.: Engineering; Med.: Medicines.

Source : Adopted from C.S.Ke (1989) Wo Kuo Kao Ting Chiao Yu Yu Jen Li Yun Yung Te Kuan Hsi (The relationship between higher education and the usage of manpower in Taiwan), paper presented in the conference on the higher education into the twenty-first century, held in Tan Chiang University, Taipei.

achieving industrial growth of over 10 percent per annum (9). The government's industrial strategy was to develop domestic industries whose products would replace items hitherto imported.

C.H.Lin indicated that there were two reasons for Taiwan to develop import substitution industries. First, the shortage of foreign exchange forced Taiwan to adopt this strategy. The majority of export goods were agricultural products, such as sugar, rice and other processed foodstuffs. The value of these exports could not be increased quickly. Their prices were vulnerable to frequent fluctuations outside Taiwan's control in international markets. Consequently it was difficult for Taiwan to obtain a sufficient and regular supply of foreign exchange from its agricultural exports to pay for the import of the many industrial products needed by its increasing population and by developing industries. The logical alternative was to seek to produce domestically for home consumption those industrial goods that had hitherto been imported.

Secondly, Lin asserted that the development of import substitution industries was in itself a way to general industrial development. Although prices prevented the products of these industries competing internationally, there was already a developed domestic demand, previously met by imports, for the output of these new industries especially because there were import controls or tariffs to protect them (10).

In 1953 Taiwan began implementing the first of three successive four-year economic plans, seeking successfully to develop both agriculture and industry simultaneously.

Between 1953 and 1960 agricultural production grew at an average annual rate of 4.6% and industrial production 11.8% (Table 1-2). Taiwan became self-sufficient in light industrial products and the government turned to the expansion of export trades and to the encouragement of investment (for example, providing lands for investors). Between 1953-1964, sugar had averaged 44.09% of total exports. Then when the sugar price declined, textiles, electronics and plastic products replaced agricultural products and processed foodstuffs as Taiwan's main exports (11). Traditional agriculture was clearly losing its economic importance in Taiwan whilst the role of labour-intensive light industry increased. Agricultural employment declined from 38.3% to 32.8% and that in services from 44.0% to 42.3%, while the proportion of industrial workers increased from 17.7% to 24.9% in this period(12).

It was during this period that all levels of education experienced steady growth. The government particularly emphasised the importance of primary education. 544 new primary schools were created between 1952 and 1960. It is quite natural for a developing country to begin its development of the education system by concentrating first on primary schooling in order to build a basis for more advanced education. In Taiwan the objectives of education policy in this period were to increase the rate of literacy and to cultivate citizenship by giving a general education. In spite of government emphasis on primary education (95.59% of age group in primary education in 1960), the number of higher education institutions increased from 8 to 27 by 1960. The majority of students were enrolled in social

Table 1-2 Agricultural and Industrial Growth Rate in Taiwan,
1953-1960

| Period | Agricultural growth rate(%) | Industrial growth rate(%) |
|------------------------------------|--------------------------------|------------------------------|
| 1953 | 9.5 | 25.1 |
| 1954 | 2.1 | 5.8 |
| 1955 | 0.5 | 13.1 |
| 1956 | 7.7 | 3.5 |
| 1957 | 7.1 | 12.8 |
| 1958 | 6.7 | 8.6 |
| 1959 | 1.7 | 11.7 |
| 1960 | 1.4 | 14.2 |
| Average growth rate (1953-1960) | 4.6 | 11.8 |

Source : Taiwan Statistical Data Book, 1987, Taipei, Council
for Economic Planning and Development, the Republic
of China.

sciences, engineering and humanities. Those majoring in engineering actually declined during this period (from 29.45% in 1953 to 19.85% in 1960) (see Table 1-1). The reason could be that the expansion of higher education concentrated on social sciences departments. In this period higher education was not seen in playing economic role. In the first and second economic plans there were no sections dealing with the importance of educated manpower for economic growth.

The Export Promotion Period (1961-1972) : Higher Education in Rapid Expansion

Rostow indicated that Taiwan's economic development, from 1960 onwards started to enter the stage of "driving to technological maturity" (13). Rostow described the "maturity stage" as:

"the stage in which an economy demonstrates the capacity to move beyond the original industries which provided its take-off and to absorb and apply efficiently over a very wide range its resources - if not the whole range - the most advanced fruits of modern technology" (14).

This precisely describes Taiwan's economic development between 1961 and 1972. These years represented a period of sustained growth. A series of policies, for example, tax-holidays and tariff rebates on imported material processed for export, were adopted to encourage foreign investment and increase exports. Since the end of the 1950s demand in the domestic market had appeared weak. In order to maintain continuous growth of economy, to create employment opportunities for an increasing population and a rising average income, central government concentrated on export industries. Another reason for developing export industries could be that:

"the government recognised that close international economic contacts may promote both economic prosperity and international support to forestall or offset diplomatic reversal" (15).

During this period the proportion of GDP supplied by agricultural production declined from 20% to 10%. Between 1963 and 1972 the contribution of agricultural goods and products to exports fell from 43% to 17%. In 1952 only 8% of Taiwan's exports were industrial products. This figure rose to 50% in 1962 and a massive 83% in 1972. Industry had outstripped agriculture and become an overwhelmingly more important part of the economy. After 1961 high wages in the industrial sector attracted many workers into factories. H.Y.Wan's description of industrial development of the period gives a clear picture:

"The fast growth between 1966 and 1971 belonged to the electronics industry. This industry attracts most of the foreign investment and exports most of its output. Its subsectors, telecommunications and generators/motors, grew at an annual rate of 80 per cent. In 1971, 60 per cent of textile products were exported. The subsectors of knitted products and processed apparel also grew at 65 per cent and 41 per cent per year between 1966 and 1971. Another industry that attracted foreign investment and exported much of its output is rubber, chemical and petroleum products. Its output growth in 1963-72 kept pace with the industrial sector as a whole - i.e., its output rose by five times" (16).

After the 1960s the growth of population slowed. The rate of increase, which had been 3% per annum, fell to an average of 2% between 1960-70 (17). This contributed to an average annual increase of per capita GNP of 7.3% between 1965 and 1972. This took Taiwan out of poverty and made her into one of the new industrialised countries.

The economic growth and the expansion of education in Taiwan played a major role in transforming the island from a traditional to an advanced society. However it is difficult to show that Taiwan's educational institutions played important part in causing the period of rapid economic growth described above. There is a correlation between education and economic growth in Taiwan, but whether the former caused the latter or the latter promoted the former is in question.

During the period 1960-1972 512 primary schools, 587 secondary schools and 72 colleges and universities were created. For the first time the expansion of the number of students in higher education exceeded the expansion in the primary and secondary sectors (the student number of higher education increased from 44,314 to 270,895 between 1962-73, the growth rate was 19.47%). Of the 72 newly created institutions of higher education, only 7 were universities and independent colleges while 65 were junior colleges. This shows an emphasis at that time by government on the lower-level manpower provided by junior colleges to meet the development of labour intensive industry.

Educational expenditure also increased rapidly. It rose from NT\$2,138,470 to NT\$12,505,683, from 2.91% to 3.59% of GNP from 1960 to 1972 (18). However the proportion of GNP devoted by Taiwan to educational expenditure was lower than the average for the developed countries: 3.3% as compared to an average 5.1% in 1965 and 4.6% as compared to 5.7% in 1970. Yet, the proportion was still higher than the average of other developing countries: 3.3% compared with 3.0% in 1965 and 4.6% compared with 2.9% in 1970. During the same period a much greater proportion of the education budget was

devoted to higher education which was going through a phase of major expansion. The share of educational expenditure allocated to primary education decreased from 40.7% to 28.9% during this period, for secondary education it rose slightly from 33.6% to 36.4%, whilst higher education rose from 12.1% to 20% (19).

The interdependence of economic activity and higher education has been obvious since the beginning of the 1960s. Taiwan's economy at this period was at the stage of "driving to technological maturity". New technology was introduced from overseas which required qualified manpower. Higher education therefore was expanded to meet the needs of economy. However Taiwan still concentrated on labour-intensive industries, which needed largely semi-qualified skilled workers and technicians. So numerous three-year and five-year junior colleges were created to respond to the need for this kind of manpower. Higher education institutions are no longer just places for the cultivation of intellectuals, but also places for the training of students in vocational skills and techniques. The notion of "human capital" - education as an investment for individuals and nation - attracted wider support.

As mentioned before, in the first and second four-years economic plans (1957-1960), there was no section discussing the education of manpower. In the third plan (1961-1964) there was a small section under "Social Construction" mentioning the need to train technicians. It was not until the fourth and fifth economic plans (1965-1968 and 1969-1972) that the need to develop human resources was fully accepted and the need to train highly qualified manpower,

such as scientists, engineers and technicians, to meet the needs of the economy was asserted (20).

Perhaps in response to these needs for professionals and technicians, the subject-specialisations of students enrolling at university gradually changed. Between 1961 and 1972, the proportion of students enrolled in social sciences increased from 24.59% to 31.37%, engineering from 19.58% to 26.27% and education from 5.59% to 10.15%, but particularly decreased in the faculties of humanities (17.17% to 9.60%) and agriculture (8.76% to 4.12%) (see Table 1-1).

The period between 1965 and 1970 saw the percentage increase in the number of students in higher education reach its highest point - 138.6% - higher than that in the United States, Britain, France, West Germany, Netherlands and Japan (Table 1-3). Those developed countries had already had their peak years of expansion of higher education between about 1960 and 1965. Taiwan experienced the phenomenon later. It could be expected that Taiwan would therefore experience the problems of over-expansion also later than those other countries.

The Period of Changes of Economic Structure (1973-1988): the Slowing down of the Expansion of Higher Education

Since the beginning of the 1970s the economy of Taiwan has continued its progress in industrial and commercial development. Agricultural production fell to less than 10% of GDP while the industrial and commercial sectors each reached 40%. Industrial development now included the development of heavy industry with obvious structural changes in the economy. There were two reasons for the

Table 1-3 The Rate of Increase of Students in Higher Education
Institutions : U.S.A., Britain, France, W.Germany,
Netherlands, Japan and Taiwan (R.O.C.)

| | Increase per annum : % | | | | | | |
|-----------|------------------------|---------|--------|---------|-------------|-------|--------|
| | U.S.A. | Britain | France | W.Germ. | Netherlands | Japan | Taiwan |
| 1965-1966 | 44.9 | 47.6 | 54.3 | 58.0 | 48.3 | 54.4 | 138.6 |
| 1970-1971 | 30.5 | 12.8 | 25.3 | 53.5 | 30.2 | 24.6 | 42.2 |
| 1975-1976 | -1.5 | 2.2 | 3.1 | 4.3 | 7.0 | 3.1 | 3.5 |
| 1977-1978 | 2.6 | - | 0.1 | 3.9 | 5.5 | 2.6 | 3.1 |

Note : Higher education institutions included universities,
independent colleges and junior colleges.

Source : adopted from W.F.Kuo (1980) "Ou Chou Kao Ting Chiao Yu Hsin
Chu Shih" (The new trends of European higher education) in
C.C.Lin (ed.) (1980) Pi Chiao Chiao Yu (Comparative
education), Taipei, Wu Neien.

shift from light industry to heavy industry. First, the domestic market had been oversupplied with the products of light industry and competition in the international market was acute. In these circumstances there was little profit to be pursued in that sector. Secondly, the accumulation of national savings, capital and the higher standard of technology made it possible to develop heavy industries, such as petrochemicals, steel, mechanical engineering and car production (21).

The two oil crises of 1973 and 1980 created major challenges for Taiwan's economy. Taiwan is an island lacking sufficient natural resources to meet its own needs and, like many countries, greatly dependent on oil imports. The increases in oil prices during these two crises led to increases in the general price of goods and to inflation. Taiwan's annual inflation rate rose to 47.5% in 1974 and in 1980 to 19.0%. The comparable average inflation rates in the developed countries were 13.3% in 1974 and 11.9% in 1980 (22). In the face of such crises it was very hard for the government to maintain economic growth successfully at the previous high levels.

Nevertheless, from 1974 the government initiated policies to seek to overcome economic hardship - such as the "Ten Major Construction Projects" and investment in public industries. Prices were stabilised and the rate of economic growth increased to 10.9% in 1984 (23).

During the period 1973-1980 the annual growth rate of Taiwan's economy was 8.3% and the per capita GNP rose to NT\$83,214 (equal to US\$2,312). This put Taiwan in the fortieth place in the world(24). In 1986 per capita GNP

reached NT\$141,654 (US\$3,748). Among the newly industrialised countries, it was somewhat behind Singapore, Hong Kong (25) and Spain (26). However, the improvement in the standard of living can be seen in the changing pattern of consumption. Figure 1-1 illustrates the transformation. Between 1953 and 1985, the proportion of consumer expenditure devoted to food fell from 54.2% to 36.7% whilst the proportion spent on education, leisure and health, increased from 10.5% to 15% (27).

Even though Taiwan passed through the period of international economic stagnation smoothly, the country has been under pressure to restructure its economy since 1980 in order to ensure continued prosperity. Increasing wages have meant the end of low labour costs. Labour-intensive industries have been losing export markets to competition from low cost developing countries, such as South Korea, Hong Kong, Thailand, Brazil and mainland China. As Taiwan becomes less able to compete in these areas it becomes imperative that capital- and technological-intensive industries must be developed. In such circumstances higher education must play a greater role than before in meeting the needs of economic development.

However the rate of expansion of higher education has in fact been slowing down since the mid-1970s. Between 1970 and 1980 only six new colleges were instituted. Quantitative expansion of higher education in Taiwan has reached saturation point, the same point that most of the developed countries reached at the beginning of the 1970s. The major task for this period has been to balance the demand and supply of graduates. The emergence of graduate

| | | | |
|-----------------------------------|------|------|-------|
| Food | 1953 | 54.2 | ————— |
| | 1985 | 36.7 | |
| Tabacco, wine, drinks | 1953 | 5.9 | — |
| | 1985 | 3.5 | ... |
| Clothing | 1953 | 6.1 | — |
| | 1985 | 5.5 | |
| Housing | 1953 | 21.7 | ————— |
| | 1985 | 25.5 | |
| Transportation | 1953 | 1.6 | - |
| | 1985 | 8.5 | ----- |
| Education, leisure & health | 1953 | 10.5 | ——— |
| | 1985 | 15.0 | ----- |

Figure 1-1 The Changes of Consumption Patterns in Taiwan

Source : The Process of Economic Modernisation in Taiwan Areas, the Republic of China, Taipei, Council for Economic Planning and Development, Executive Yuan, P.24.

unemployment and underemployment made economists and educators concerned not only with the returns on investment in higher education, but also with the relationship between higher education and the labour market.

Between 1973-1987, enrolment in all faculties decreased except in engineering and medicine (see Table 1-1). This reflected the government's policy to encourage more students to major in vocational subjects rather than in humanities. Also when the employment problems of graduates became serious after the end of 1970s, more students would be likely to study "marketable" subjects to avoid unemployment.

1.2 The Political Structure in Taiwan (the Republic of China)

The central government plays an important role in establishing the relationship between economic growth and higher education. At each stage of economic development, economic strategies were devised by the central government and followed by public and private industries. A powerful and centralised government is needed to devise economic plans and to ensure they are put into practice. There must also be a prevailing political idea of encouraging economic activity. The description of political structure of Taiwan can lead us to understand how far these conditions were met.

The national government of the Republic of China was established in accordance with a constitution adopted on the mainland in 1946. The constitution provides for a National Assembly to elect the president and vice-president and amend the constitution, a Legislative Yuan to pass the law, an Executive Yuan to implement the laws, a Judicial Yuan to

interpret the constitution and serve as a court of last resort, a Control Yuan to supervise officials, and an Examination Yuan to conduct civil service examinations. J.F.Copper argued that this kind of political system is a blend of China's traditional government and Western political types. The first three yuans - the Executive Yuan, the Legislative Yuan and the Judicial Yuan - represent the three main functions of government in Western system, the two additional yuans represent the important functions of government in China before the 1911 revolution(28).

Of the three elective bodies - the National Assembly, the Legislative Yuan, and the Control Yuan - the Legislative Yuan has the most formal power. It is the highest legislative branch of the government. The president of the Executive Yuan must can only be appointed by the national president in the consent of the Legislative Yuan.

Far more important in practice than the Legislative Yuan is the Executive Yuan, or the Cabinet. It is the principal decision-making body of government. There are at present eight ministries under the Cabinet. They are the Ministry of the Interior, Foreign Affairs, National Defence, Finance, Education, Justice, Economic Affairs, and Communications. All ministers are also appointed by the president of the nation.

In addition to the central government, there is a Taiwanese provincial government, which has a variety of subordinate functions under the direction of the central government. The provincial government is headed by a governor appointed by the president. There is also an

elected provincial assembly, which approves the budget of the provincial government and has other limited powers.

County magistrates, city mayors, and country and city councils, all of which are elected, have powers in local affairs. The city of Taipei and Kaoshiung are exceptions, being special municipalities under the Executive Yuan. Their mayors are appointed by the president, but their councils are still elected by popular vote.

Most power is concentrated in the hands of central government. The provincial government has limited powers confined to minimum matters such as managements of local finance and transportation.

Many officials of the central government came from mainland when the Republic of China moved to Taiwan. The majority of the members of the three elected bodies are also from the mainland. After the experience of economic failure on the mainland, on Taiwan the central government adopted and put into practice a series of complete economic plans. Although most were effective and successful in promoting Taiwan's economic growth, however, these economic plans, including manpower plans were only concerned to boost economic development and neglected necessary cultural and educational adjustments, with which the difficulties in graduate employment in the later periods may be amounted.

1.3 Education System in Taiwan (the Republic of China)

The Ministry of Education being under the control of the Cabinet can more easily reconcile educational and economic plans. The supply of scientific and technological manpower

is promoted by the centralised educational administrative system.

Centralised Educational Administrative System

According to the Chapter 10 of the Constitution of the Republic of China, "Powers of the Central and Local Government", the central government has the power of legislating for and administering national education. It also delegates administrative powers to the provinces, special municipalities, county or city governments. At the central level of government, the Ministry of Education is in charge of all administrative matters dealing with academic work, culture and education. It instructs and supports the senior local administrative officers regarding the execution of powers delegated by the Ministry. Subject to the approval of the Executive Yuan, the Ministry may suspend or nullify the orders or directions of local administrative officers if the Ministry feels that they are acting contrary to laws or regulations, or exceeding their powers.

Each province has a Department of Education and special municipalities have each a Bureau of Education. They are responsible for those matters related to provincial/special municipality school education, and matters related to the planning and administration of libraries, museums and stadia in the province or special municipality. Each county or city has a Division or Bureau of Education which are responsible for similar matters to the provincial Department of Education (see Figure 1-2).

All these local bureaus or divisions are under the control of the Ministry of Education. Generally, the county or city is responsible for primary and junior high schools, the

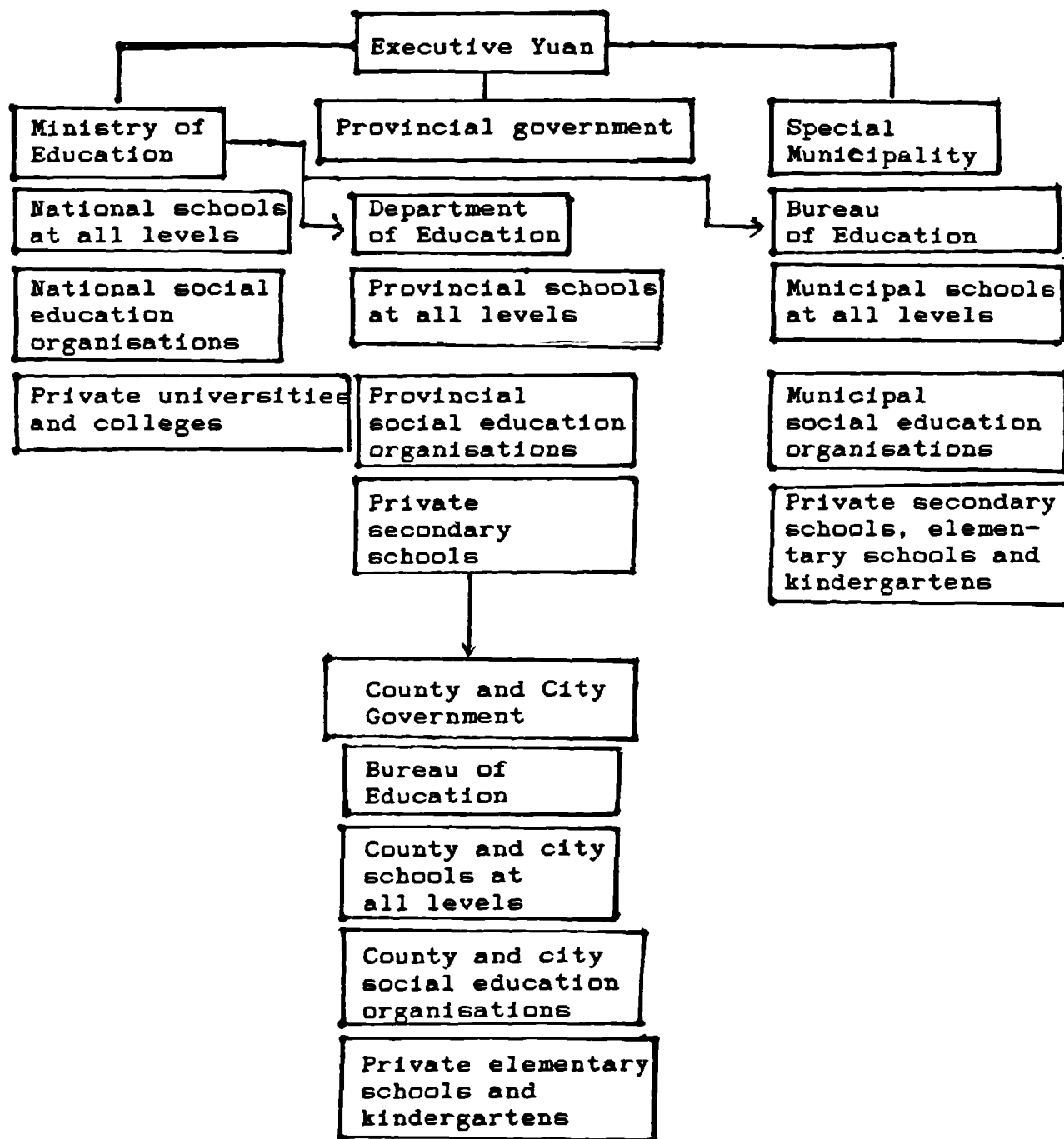


Figure 1-2 System of Educational Administration in Taiwan (R.O.C.)

province is responsible for senior academic and vocational high schools. Central government controls higher education. As the Ministry of Education is headed by a cabinet-officer, any important educational policy has come down from the central to the local level. Local government has limited power in educational policies.

School System

The structure of education in Taiwan was influenced by that of the U.S.A. - that is a 6-3-3-4 pattern (see Figure 1-3). There are six years elementary school, three years junior high school, three years senior academic and vocational secondary school and four years university (29).

The practice of education in junior high schools does not foster the vocational interests of students, nor encourage them to study in vocational schools. After finishing nine years compulsory education, students sit an entrance examination for entry to academic high school. The acute competition to some extent has distorted the development of junior secondary education, which is primarily involved in preparation for the academic high school examination. Those subjects not tested in the examination are not given attention by teachers and students. In some schools, they do not even teach these subjects in order to have more time to prepare the pupils for the examination. Many students chose vocational schools just because they failed to enter public academic high schools. The curricula and practice of the junior high schools discourage further vocational studies. Even though government tried to rectify this problem, traditional ideas of high regard for higher education made government's efforts unsuccessful.

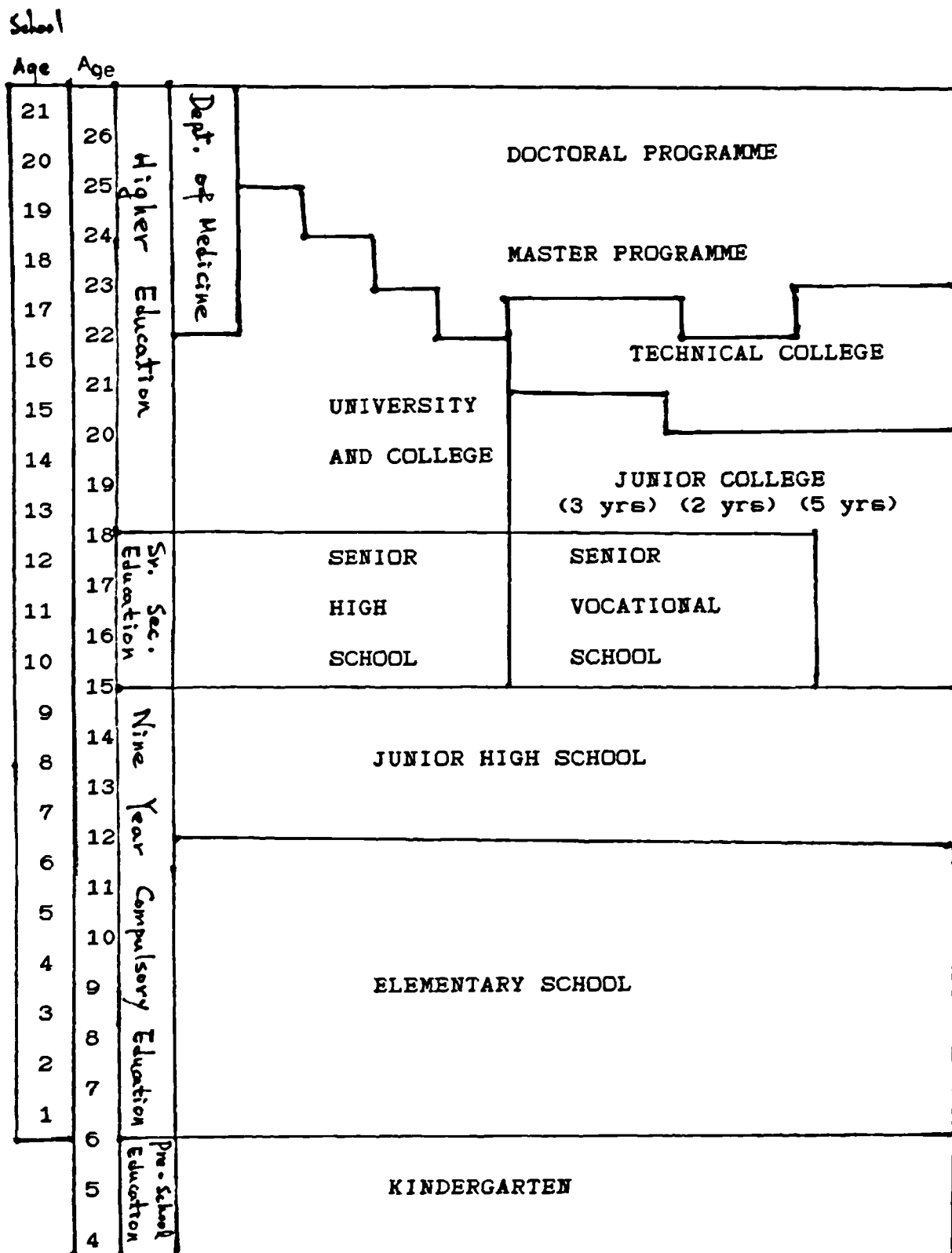


Figure 1-3 The Current School System of Taiwan (R.O.C.)

This situation was worse in the senior secondary education. Because the inflexibility of educational system, once students entered the academic high school, the only goal is to pass the entrance examination for university or college. It is difficult for these students to transfer to vocational school if their interests change. It is even more difficult to transfer to academic high school from vocational schools. The curriculum in academic high schools was distorted to equip students with the factual knowledge tested in the examinations. No vocational orientated subjects are introduced and information about the labour market is not available. Most students chose their university or college subject without having any idea what it is about.

Higher Education Institutions

Higher education institutions in Taiwan can be divided into two categories: (a) universities and independent colleges, (b) junior colleges. The universities and independent colleges offer four-year undergraduate programmes leading to bachelor degree. Most of them also offer master and some doctoral programmes. There are three types of junior colleges: the two-year junior colleges admits vocational high school graduates; those of three-years admits academic high school graduates; and the five-year junior college admits junior high school graduates. A diploma, not a degree, is awarded upon graduation at all junior colleges. In addition to these traditional institutions, the University of the Air started to enrol students in 1986. A certificate, not a degree, is awarded to the graduates of this university. It is classified as a kind of supplementary education, not a branch of formal education.

Hierarchy of Higher Education Institutions

There is a hierarchy of prestige among higher education institutions. Universities are superior to independent colleges, which are superior to junior colleges. Public institutions are superior to private ones (ratio of students in public to private institutions was 1:2.3 in 1986)(30). Even among public universities, there is an informal ranking, for example, Taiwan University was thought the best by students and parents. Some high school graduates prefer any subject of study in "good university" rather than a particular subject in which they are really interested. This may cause them to have difficulties in finding jobs in the future. The relatively small number of universities and independent colleges is one reason for their prestige. There were 77 junior colleges in 1986 but only 28 universities and independent colleges. The vocational orientation of junior colleges is another reason for their perceived inferiority.

Entrance Examination

The Joint Entrance Examination for Independent Colleges and Universities is important for a person's educational career. It is the only channel through which high school graduates can enter universities and independent colleges (junior colleges have their own entrance examinations, which are not taken so seriously by students and parents). According to W.H.Wu et al, there are two major reasons which have maintained the examination system for more than three and a half decades. First, the examination provides fair competition and excludes any possibility of back door admissions; second, the examination jointly held by similar institutions avoids duplicated admissions(31). The competition is very acute. In 1988, for example, only 30%

of 110,000 applicants were accepted. At public universities the competition is even sharper. Public universities are preferred by students and parents, not only for their prestige, but also because of the enhanced employment opportunities they give. Employers prefer to hire graduates from public universities especially when applicants are in excess of demand.

Field of Study

Government policy in encouraging higher education to respond to the needs of economy can be seen from the ratio of university and college students in different fields to total enrolments. In 1986, 34% of students was enrolled in engineering, 31% in social sciences and only 9% in humanities. The humanities and social sciences has been much more emphasised in the 1960s (see Table 1-4).

Curriculum

There are three types of courses in universities and colleges: (a) general courses for all departments, (b) required courses for individual departments, and (c) "electives". The general and required courses are stipulated by the Ministry of Education, the electives are decided by each institution. The idea of higher education to prepare a all-round person can be seen in the requirement of general courses. However, students have been encouraged by their departments to take as many courses in their major field as possible. The freedom of students in choosing the subjects they like was actually restricted.

Table 1-4 Proportions of University and College Students in Different Fields (1950-1986)(%)

| Year | Humm. | Educ. | Art | Law | S.Sci. | N.Sci. | Engr. | Med. | Agri. |
|------|-------|-------|-----|-----|--------|--------|-------|------|-------|
| 1950 | 7 | 3 | 1 | 3 | 24 | 7 | 30 | 17 | 7 |
| 1960 | 18 | 5 | 3 | 3 | 25 | 9 | 20 | 8 | 9 |
| 1970 | 12 | 6 | 3 | 2 | 35 | 7 | 20 | 9 | 6 |
| 1980 | 11 | 6 | 3 | 2 | 33 | 6 | 30 | 5 | 4 |
| 1986 | 9 | 5 | 2 | 2 | 31 | 6 | 34 | 8 | 3 |

key:

Humm.: Humanities; Educ.: Education;
S.Sci.: Social sciences; N.Sci.: Natural sciences;
Engr.: Engineering; Med.: Medicine;
Agri.: Agriculture.

Source : Educational Statistics of the Republic of China,
Taipei, Ministry of Education, 1958, 1961, 1971, 1981.

The exercise of the Ministry of Education power to decide the number of the enrolments was affected by the needs of the economy. However, the structure, practice and even the ideology of education are difficult to change. This is the background to understanding the employment problems of graduates.

1.4 Conclusion

The rapidity of economic growth and change in Taiwan has created considerable occupational opportunities. The lack of development of the economy cannot be seen as the basic cause of long term graduate unemployment as is probably the case in many less industrialised countries. Yet the speed of economic change may reinforce the remoteness of institutions of higher education from the occupational needs of the economy. Academics may have views about employment opportunities which reflect conditions of twenty or thirty years previously. So the gap between academia and society may be greater in a rapidly changing economy than one that evolves more slowly. The nature of economic change in Taiwan may make the central proposition of the thesis about the conflict between academic and industrial values much more important.

On the other hand, the power of government in Taiwan to manage the economy and the education and to bring the two into harmony is very strong. The failure to reconcile the educational system to economic needs may be attributed at least in part to weaknesses in government policy in the intersection between the two fields. This weakness has been described in the organisation of the school system and its links with entry to higher education. Government policy on

manpower planning needs to be examined to determine how far weaknesses in this area have contributed to graduate unemployment. Only after the question has been considered in the following two chapters can the central proposition about academic values be addressed.

Notes and References

- (1) Rostow, W.W. (1971) The Stages of Economic Growth : A Non-Communist Manifesto, 2nd ed. Cambridge, the University Press, PP.4-11.
- (2) Rostow, W.W. (1978) The World Economy - History and Prospect, London, the Macmillan Press, P.540.
- (3) a. Tsurumi, P.E. (1977) Japanese Colonial Education in Taiwan, 1895-1945, Cambridge, Massachusetts, Harvard University Press.
b. During the colonial period, only a few Taiwanese were able to receive higher education, and the subjects of study were restricted to certain professional areas, such as medicine and basic technology. Study of subjects such as law, literature, politics and philosophy were thought dangerous to the colonial rule of Japan.
- (4) Wan, H.Y, Jr. (1981) "The Taiwan Economy : General Background - A Survey", in J.C.Hsiung (ed.) Contemporary Republic of China - The Taiwan Experience, 1950-1980, New York, Praeger Publisher.
- (5) Education in the Republic of China is centralised. Most of educational policies and plans are formulated by the central government (Ministry of Education) and implemented by local educational boards.
- (6) adopted from Taiwan Statistical Data Book, 1987, Taipei, Council for Economic Planning and Development, Executive Yuan, the Republic of China.
- (7) Rostow, W.W. (1971), op.cit., P.7.
- (8) Ibid.
- (9) Rostow, W.W. (1978), op.cit.

- (10) Lin, C.H. (1987) Tai Wan Ching Chi Fa Chang Szu Shih Nien (Economic development in Taiwan in the past forty years), Taipei, Chih Li Wan Pao (Independent Evening News).
- (11) Wu, Y.M. (1986) "Tai Wan Ching Chi Fa Chan Chieh Tuan Shuo Chih Tan Tao" (The study of the stages of the economic development in Taiwan), Monthly Taipei Municipal Bank, Vol.17, No.2, PP.1-11, P.2.
- (12) Yang, H.W. & W.P.Chang (1985) "Tai Wan Ching Chi Chien She Chih Cheng Chang Yu Tse Lueh" (The growth and strategies of Taiwan's economic construction), Taiwan Economy, Vol.106, PP1-8, P.5.
- (13) Rostow, W.W. (1978), op.cit.
- (14) Rostow, W.W. (1971), op.cit., P.10.
- (15) Wan, H.Y.Jr. (1981), op.cit., P.132.
- (16) Ibid.
- (17) Sources are from Educational Statistical Data Book, 1987, Taipei, Council for Economic Planning and Development, Executive Yuan, the Republic of China.
- (18) Sources are from Educational Statistics of the Republic of China, 1986, Taipei, Ministry of Education, P.40.
- (19) Sources are from Educational Statistics of the Republic of China, 1987, Taipei, Ministry of Education, PP.38-39.
- (20) a. adopted from Lee C. (ed.) (1975) Tai Wan Jen Li Tzu Yuan Lun Wen Chi (Essays on the human resources of Taiwan), Taipei, Lien-ching, P.576.
- b. the relationship between manpower planning and human capital theory is positive in Taiwan. This connection is discussed more fully in chapter 5.
- (21) Wan, H.Y.Jr. (1981) op.cit.
- (22) Lin, C.H. (1987) op.cit., P.90.

- (23) Council for Economic Planning and Development (1987) The Process of Economic Modernisation in Taiwan Areas, the Republic of China, Taipei, P.11, (in Chinese).
- (24) Lin, C.H. (1987) op.cit, P.98.
- (25) It is not appropriate to treat Hong Kong as a nation, however, it is also difficult to treat it as part of a nation, Here it is cited for comparison only.
- (26) Lin, C.H. (1987) op.cit, P.101.
- (27) Council for Economic Planning and Development (1987) op.cit, P.24.
- (28) Copper, J.F. (1981) "Domestic Politics", in J.C.Hsiung (ed.) Contemporary Republic of China - The Taiwan Experience 1950-1980, New York, Praeger, P.341.
- (29) For students in teaching profession, law and medicine, the period of study is normally longer than four years.
- (30) calculated from Educational Statistics of the Republic of China, 1987, Taipei, Ministry of Education, P.95.
- (31) Wu, W.H., Chen, S.F. & Wu, C.T. (1989) "The Development of Higher Education in Taiwan", Higher Education, No.18, PP.117-136, PP.129-130.

CHAPTER 2 THE EMERGENCE OF GRADUATE EMPLOYMENT PROBLEMS - THE MISMATCH BETWEEN DEMAND FOR AND SUPPLY OF GRADUATES

Graduate unemployment is not confined to Taiwan. It has been experienced, though for differing lengths of time, in most industrialised and non-industrial economies. As a result, a considerable conceptual and empirical literature has grown to analyse the phenomenon. This literature has provided the tools for greater precision in analysing both the nature and causes of graduate unemployment. Research in other countries may be used to explore the issues in Taiwan more systematically.

This international literature provides also a means to examine problems in Taiwan from a comparative perspective. Three sets of questions can be considered from this international dimension. Firstly, how far was graduate unemployment the temporary outcome of over-rapid economic growth followed by recession? How far was the position worse in Taiwan than in three major industrial countries - the U.S.A., Britain and Japan? Secondly, how far was graduate unemployment the product of changes in occupational structures? Was there a failure in other countries on the part of institutions of higher education and students to adapt quickly enough to the realities of the labour market? Thirdly, how far was graduate unemployment the product of a mismatch between the fields of study of students and the requirements of the labour market? Is graduate unemployment more likely to be experienced by graduates of some specialisations than others?

The results of research in the other countries - especially the U.S.A., Britain and Japan - may be analysed first. Then a comparison can be made with Taiwan. In this way a more specific characterisation of graduate unemployment in Taiwan may be achieved.

2.1 The Emergence of Graduate Unemployment

The unemployment rate of graduates of higher education institutions increased from the beginning of 1970s in most developed countries. Even though the problem was not as serious as other graduate employment problems such as little or weak relation of job to field of study, it is still an indication that the rapid expansion of higher education has led to an oversupply of graduates.

B.C.Sanyal pointed out that the statistics on the level of unemployment in relation to the educational level of citizens were not available for most countries, but that the International Labour Organisation (ILO) published statistics on unemployment by different categories of occupation for the countries in which those figures are available. As two occupational categories - professional, technical and related workers and administrative, executive and managerial workers - consist mostly of graduates, the unemployment rate of these two categories perhaps can give us an overview on graduate unemployment problems. Between 1976 and 1985, in the Federal Republic of Germany the number unemployed in the professional category rose from 118,500 to 279,400, in Finland from 3,000 to 9,000 and, between 1970 and 1982, in the United States from 339,000 to 579,000 (1). From these figures it is not difficult to see that the graduate unemployment problems appeared serious during this period.

R.B.Freeman has drawn our attentions to the case of the U.S.A.. In 1972 the unemployment rate of graduates of higher education institutions in the United States was 11.7%, which was far in excess of the national average for workers (5.1%) and above that for high school graduates of about the same age (7.7%)(2). In 1982, even though the unemployment rate of graduates had fallen since the 1980s, it was still 9.6% for those who completed one to three years of college and was still slightly higher than the national unemployment rate of 9.5% (3).

There is similar evidence of oversupply of graduates in the same period in the United Kingdom. 5.4% of 1970 U.K. graduates were still seeking employment six months after graduation, compared to 2.3% of 1966 graduates. Table 2-1 shows that between 1976 and 1982 the rate of graduate unemployment increased from 6.3% to 13.5% and that in 1976 and also 1979-82 the graduate unemployment rate was higher than the unemployment rate for the workforce as a whole.

In Japan, the unemployment rate of higher education graduates increased from 4.4% in 1965 to 10.8% in 1979, against the background of an average national unemployment rate during the period of no more than 2.2%(4).

However, the mid-1980s have seen a fall in graduate unemployment in these developed countries. By 1986 in the United States the unemployment rate for those who had completed one to three years of college education had fallen to 5.3%, and for those who had finished four or more years

Table 2-1 Unemployment Rates of the Whole Labour Force and of Graduates : U.K.

| | Whole labour force ⁽¹⁾ | Graduates ⁽²⁾ |
|------|--------------------------------------|--------------------------|
| 1976 | 5.6 | 6.3 |
| 1977 | 6.1 | 5.9 |
| 1978 | 5.9 | 4.9 |
| 1979 | 5.0 | 5.2 |
| 1980 | 6.4 | 9.0 |
| 1981 | 9.8 | 11.3 |
| 1982 | 11.3 | 13.5 |
| 1983 | 12.5 | 11.6 |
| 1984 | 11.7 | 9.6 |
| 1985 | 11.2 | 8.6 |
| 1986 | 11.1 | 7.3 |

- Sources : (1) Social Trends 18 -1988 Edition : A Publication of the Government Statistical Service, U.K., London, HMSO, Central Statistical Office, P.77.
- (2) University Statistics 1980/81 and 1986/87. U.K., First Destinations of University Graduates, Universities' Statistical Record, Gheltenham, University Grants Committee.

it was 2.5% (which were 9.6% and 5.6% respectively in 1982)(5). In the United Kingdom graduate unemployment fell to 7.3% in 1986 - much lower than the national unemployment rate of 11.1%. (6)

The reasons for the fall may have been, in the case of the United States and the United Kingdom, a fall in enrolments in higher education institutions (in U.S. high school graduates may choose not to go to higher education institution, in U.K. demographic decline in the age group of 18 could be reason) or students choosing to study those specialities in demand in the labour market or, in the case of Japan, government policy restricting the expansion of higher education institutions. Or perhaps college students' occupational aspirations became more realistic. The adjustment of educational institutions to new pattern of employment might be seen as effective in reducing graduate unemployment.

2.2 Changes of Occupational Structure for Graduates

Higher education expanded rapidly during the 1960s in most developed countries. By the mid-1970s the number of bachelor's degrees awarded in the United States and in the United Kingdom was two and half times that of 1960s. In Japan the number in 1975 was 2.8 times that of the 1960s (Table 2-2). The demand for graduates in the labour market was strong during this period. Economies all over the world and particularly in developed countries were going through a phase of expansion. There had been a transformation of the occupational structure which needed fewer manual workers and more qualified skilled workers and professionals. Table 2-3 shows that during the decade between 1960 and 1970 the

Table 2-2 The Number of First Degree Recipients

| | U.S.A. | U.K. | Fiscal year | Japan |
|---------|---------|--------|----------------|---------|
| 1960-61 | 369,995 | | 1960 | 117,623 |
| 1962-63 | | 23,063 | | |
| 1965-66 | 520,923 | | 1965 | 178,279 |
| 1966-67 | | 38,874 | | |
| 1970-71 | 839,730 | | 1970 | 272,949 |
| 1975-76 | 925,746 | | 1975 | 326,167 |
| 1976-77 | | 55,945 | | |

Sources: 1. U.S. data are from Digest of Education Statistics, 1987, Department of Health, Education and Welfare, Washington, National Centre for Education Statistics, U.S.A., P.172.
 2. U.K. 1966-67 data are from DES (1970) Statistics of Education, 6; 1962-63, 1976-77 are from University Grants Committee, University Statistics, 1980-81, P.6.
 3. Japan's data are from Statistical Abstract of Education, Science and Culture, 1979 ed., Department of Education, Science and Culture, P.102.

Table 2-3 Distribution of Occupations (per cent)

| | United States | | | |
|------------------------|---------------|------|--------------------|------|
| | 1960 | 1970 | %change 1960-70 | 1980 |
| professional-technical | 10.7 | 16.2 | +5.5 | 14.7 |
| Managerial | 6.3 | 9.1 | +2.8 | 10.5 |
| Clerical | 13.1 | 19.7 | +6.6 | |
| Sales | 9.3 | 12.3 | +3.0 | |
| Manual | 60.6 | 42.7 | -17.9 | |
| Great Britain | | | | |
| | 1960 | 1970 | %change 1960-70 | 1980 |
| Professional-technical | 8.5 | 11.6 | +3.1 | 11.1 |
| Managerial | 2.6 | 4.1 | +1.5 | 3.7 |
| Clerical | 12.9 | 18.8 | +5.9 | |
| Sales | 9.5 | 9.3 | -0.2 | |
| Manual | 66.5 | 56.2 | -10.3 | |
| Japan | | | | |
| | 1960 | 1970 | %change 1960-70 | 1980 |
| Professional-technical | 4.9 | 6.6 | +1.7 | 7.6 |
| Managerial | 2.3 | 3.9 | +1.6 | 4.7 |
| Clerical | 10.4 | 14.0 | +3.6 | |
| Sales | 10.6 | 12.0 | +3.6 | |
| Manual | 71.8 | 63.5 | -8.3 | |

Sources: adopted from Morikazu Ushioji "The Japanese student and the labour market" in William K. Cummings et al (eds.) (1979) Changes in the Japanese University - A Comparative Perspective, New York, Praeger, PP.114-116.

proportion of manual workers in the workforce went into sharp decline in the United States, Great Britain and Japan and professional-technical and managerial staff were in great demand. Consequently, the highly qualified manpower supplied by higher education institutions could be readily absorbed by the labour market.

However, between 1970 and 1980 the demand for professional-technical and managerial workers in these three countries either ceased to grow or actually decreased. Although the figures of 1980s and 1970s in Table 2-3 are not strictly comparable across countries, they show the low growth of demand for professional, technical and managerial workers during this period. This low demand meant that more and more graduates of higher education institutions after the mid-1970s were unable to find professional/managerial employment and were forced to accept the sort of jobs previously taken by high school graduates.

In the United States those who had completed one to three years of college education were less likely to be employed in professional or managerial positions in 1981 than in 1976 and were more likely to be operatives and labourers. Those graduates who had completed four or more years of college education still had a greater chance of managerial or administrative employment. However, their chances of being hired as service workers and craftsmen had also increased (Table 2-4).

In Japan, similar phenomena could be found. The demand for professional and technical workers continued to increase between 1970 and 1977, but at the same time more graduates were recruited as salesmen (11.1% to 16.7%), fewer were

Table 2-4 Occupation Group of Employed Degree Recipients
(%)(whitemen), U.S.A.

| | 1-3 years colleges | | | 4 or more years colleges | | |
|--|--------------------|------|---------|--------------------------|------|---------|
| | 1976 | 1981 | %change | 1976 | 1981 | %change |
| Professional, technical & kindred workers | 17.3 | 17.1 | -0.2 | 66.7 | 67.9 | +1.2 |
| Managers and administrators, except farm | 23.3 | 22.7 | -0.6 | 31.0 | 36.2 | +5.2 |
| Sales Workers | 26.3 | 26.5 | +0.2 | 27.6 | 31.0 | +3.4 |
| Clerical & kindred workers | 24.6 | 27.0 | +2.4 | 14.7 | 16.1 | +1.4 |
| Craft & kindred workers | 14.1 | 16.3 | +2.2 | 3.6 | 4.8 | +1.2 |
| Operatives, except transport | 10.0 | 11.2 | +1.2 | 1.9 | 2.3 | +0.4 |
| Transport equipment operatives | 8.9 | 11.9 | +3.0 | 2.0 | 2.3 | +0.3 |
| Labourers, except farm | 11.6 | 13.8 | +2.2 | 2.7 | 2.7 | 0.0 |
| Service workers, including private household | 19.7 | 21.1 | +1.4 | 5.3 | 7.7 | +2.4 |
| Farm workers | 8.7 | 9.5 | +0.8 | 6.4 | 8.0 | +1.6 |

Sources: (1) Digest of Education Statistics, 1976, Department of Health, Education and Welfare, 1977-78, Washington, National Centre for Education Statistics, U.S.A., P.175.
(2) Digest of Education Statistics, 1981, Department of Health, Education and Welfare, 1982, Washington, National Centre for Education Statistics, U.S.A., P.180.

recruited as managers and officials (37.6% to 34.6%), comparing with 1960-1970 (31.8% to 37.6%), the needs of managers and officials has declined (Table 2-5). M.Ushioqi indicated that between 1960 and 1970 60% of the increase in college educated workers could be explained by the change in the occupational structure, the other 40% were the result of educational upgrading of the occupation concerned but that between 1970 and 1977 only 43% of the increase was due to structural change and whereas 67% was due to educational upgrading (7).

Thus in these three developed countries change in the occupational structure created a strong demand for highly qualified workers, which meant that between 1960 and the mid-1970s the labour market had no difficulty in absorbing the increased numbers of graduates. However, after the mid-1970s, the occupational structure stabilised and it became more and more difficult to absorb graduates into high position jobs. Changes in the economy do eventually influence educational policies and operations but only after a substantial time lag. The educational authorities have little if any capacity for predicting the needs of the economy and preparing graduates for them.

In the 1980s the problem seems to have eased in most developed countries. The adjustments educational institutions had made and the number of students opting for "marketable" fields seems to have increased. However, according to U.Teichler's analysis, these adjustments in European countries remain small in comparison with the differences in employment prospects. In the country reports to the OECD in the framework of the project, The Role and Functions of the Universities in the mid-1980s, Teichler

Table 2-5 Percentage of College Graduates in the Total Labour Force in Japan 1960-1977 according to occupation

| | 1960 | 1968 | 1970 | 1971 | 1974 | 1977 | 1960-70 %change | 1970-77 %change |
|--|------|------|------|------|------|------|--------------------|--------------------|
| Professional & technical worker | 52.4 | 58.2 | 58.8 | 61.2 | 63.6 | 61.5 | +6.4 | +2.7 |
| Managers & officials | 31.8 | 37.2 | 37.6 | 36.3 | 38.1 | 34.6 | +5.8 | -3.0 |
| Clerical & related workers | 16.9 | 18.4 | 18.1 | 20.3 | 22.7 | 23.3 | +1.2 | +5.2 |
| Salesmen | 5.9 | 10.4 | 11.1 | 12.6 | 16.0 | 16.7 | +5.2 | +5.6 |
| Farmers, lumbermen & fishermen | 0.5 | 0.9 | 0.9 | 1.1 | 1.7 | 1.2 | +0.4 | +0.3 |
| Craftsmen, workers in transport & communication & production process | 1.9 | 3.0 | 2.5 | 3.3 | 4.7 | 4.4 | +0.6 | +1.9 |
| Service, protective service workers | 2.6 | 5.1 | 4.1 | 5.6 | 7.6 | 5.3 | +1.5 | +1.2 |

Source: Morikazu Ushioji (1984) Job Perspectives of College Graduates in Japan, Wissenschaftlichen Zentrums für Berufs- und Hochschulforschung, Gesamthochschule Kassel, P.6.

indicated only the United States reported a dramatic shift of students' options toward "marketable" fields of study(8).

2.3 Employment Opportunities by Field of Study

It is quite easy to understand that, when the graduate labour market started to decline, graduates in non-vocational subjects would be the first to encounter difficulties in finding employment. Freeman noted that in the United States, when the unemployment rate for graduates as a whole rose, the rates for those who had majored in humanities and social sciences rose most, to 15.4% and 16.0% respectively in 1972(9). In Great Britain the unemployment rate of those who specialised in arts, social sciences and pure sciences were already far higher than that for graduates in applied sciences between 1960-1970. During the 1970s, when times became hardest for graduates, those who had graduated in arts subjects, which were of a non-vocational nature, had more difficulties in finding jobs than other graduates. The average unemployment rate for all graduates was 11.3% whilst that for arts graduates was 16.2% (Table 2-6).

When the general graduate unemployment rate in the United Kingdom declined between 1982-1986 (see Table 2-1), the percentage of those unemployed graduates in various specialisations (except medicine, administrative studies, languages and arts) decreased between 1980/81 and 1984/85. Among those unemployed graduates in 1984/85, those specialised in administration, business and social studies and specialised in biological and physical sciences suffered more than others (Table 2-7). Their supply exceeded demand

Table 2-6 Male and Female Graduates of GB Universities Still Seeking Permanent Employment (%) (First degree graduates only)

| | 1965 | 1970 | %change | |
|-----------------|------|------|---------|--|
| Arts | 1.7 | 6.0 | +4.3 | |
| Social science | 1.7 | 6.3 | +4.6 | |
| Pure science | 1.2 | 5.6 | +4.4 | |
| Applied science | 1.3 | 2.9 | +1.6 | |
| All subjects | 1.5 | 5.4 | +3.9 | |

| | 1970 | 1975 | 1979 | %change (1970 to 1979) |
|----------------|------|------|------|---------------------------|
| Arts | 6.8 | 13.3 | 16.2 | +9.4 |
| Social studies | 7.1 | 13.6 | 12.4 | +5.3 |
| Science | 6.3 | 12.9 | 10.6 | +4.3 |
| Engineering | 3.0 | 6.7 | 4.0 | +1.0 |
| All | 6.0 | 11.9 | 11.3 | +5.3 |

Sources: 1. 1965, 1970's data are from First Employment of University Graduates, Ghelenham, University Grant Committee and Department of Employment Gazette.

2. 1970, 1975 and 1979's data are adopted from Laurence C. Hunter "Employer's perceptions of demand" in Robert Lindley (ed.) (1981) Higher Education and the Labour Market, Surrey, Research into Higher Education.

Table 2-7 Home First Degree Graduates Believed Unemployed at 31 Dec.
Analysed by Subject Group: 1978/79, 1980/81, 1984/85
(Great Britain)

| Subject group | 1980-81 | | | | 1984-85 | | 1980/1984 %change |
|--|---------------------|-------|----------------------|-------|-----------------|-------|----------------------|
| | No. of graduates | % | No. of unemployed | % | No. of unem. | % | |
| Education | 1304 | 2.0 | 82 | 1.3 | 54 | 1.0 | -0.3 |
| Medicine, dent- ist & health | 5338 | 8.4 | 50 | 0.8 | 47 | 0.9 | +0.1 |
| Engineering & technology | 7707 | 12.1 | 638 | 9.8 | 451 | 8.8 | -0.1 |
| Agriculture, fores- try & veterinary science | 1290 | 2.0 | 169 | 2.6 | 80 | 1.6 | -1.0 |
| Biological & phy- sical science | 14703 | 23.1 | 1901 | 29.1 | 1454 | 28.2 | -0.9 |
| Administrative, business & social studies | 17244 | 27.0 | 1863 | 28.5 | 1498 | 29.1 | +0.6 |
| Agriculture & other professional & vocational studies | 1003 | 11.4 | 64 | 1.0 | 37 | 0.7 | -1.0 |
| Languages, literature & area studies | 8768 | 13.7 | 958 | 14.7 | 882 | 17.1 | +2.4 |
| Arts, other than languages | 6403 | 13.7 | 958 | 14.7 | 882 | 17.1 | +2.4 |
| All subjects | 63787 | 100.0 | 6535 | 100.0 | 5148 | 100.0 | |

Sources: First Destination of University Graduates, Ghelenham,
University Grant Committee, University Statistics, various
years.

for them in the labour market. In 1987, the lowest unemployment rate was experienced in engineering and technology subjects, averaging under 5%, while in arts subjects it was over 10% (10).

In Japan's case, those graduates with social sciences and humanities degrees also had more difficulties in finding jobs. In 1979, the unemployment rates in these two fields were 28.2% and 26.5% of all unemployed graduates, which were much higher than those of science (3.9%) and home economics (5.5%) (11).

2.4 Relationship between Study Field and Work

The most noticeable aspect of the difficulties in the graduate labour market is that many graduates are engaged in jobs which were little or no relation to their previous academic specialisation. This is particularly marked for those specialised in humanities and social sciences. In the United States, between 1972 and 1981, the percentage of employed degree holders with jobs directly related to their previous degree specialisation decreased from 68.7% to 57.8%. In 1981 41.2% of humanities and 48.1% of social science graduates had jobs wholly unrelated to their major field of study at college (Table 2-8). In Great Britain, a Council for National Academic Awards (CNAA) survey of 1982 graduates also showed that graduates in arts, humanities and social sciences thought their previous study less useful in their employment than those who graduated in environmental planning, science, business and management (12). In West Germany, a survey of university-trained persons on the utilisation of knowledge acquired during study at work in

Table 2-8 Relationship of Work of Degree Recipients to Major Fields of Study : United States, Oct 1972 & May 1981 (%)

| Relation- ship | Total | Type of degree | | Major field of study | | | | |
|----------------------------|-------|-----------------|------------------------|----------------------|----------------|-----------------|-------------------|--------------|
| | | Bache- lor's | All other* Master's | Business Commerce | Educa- tion | Human- ities | Social science | all other |
| Directly re- lated 1972 | 68.7 | 61.2 | 86.4 | 61.5 | 81.7 | 56.8 | 45.4 | 75.4 |
| Closely re- lated 1981 | 57.8 | 53.0 | 72.2 | 52.6 | 72.4 | 35.8 | 23.4 | 63.3 |
| Somewhat re- lated 1972 | 12.8 | 15.3 | 7.1 | 23.9 | 6.9 | 12.2 | 25.8 | 6.4 |
| 1981 | 23.9 | 25.3 | 19.8 | 33.0 | 14.8 | 23.0 | 28.6 | 22.8 |
| Not related 1972 | 18.5 | 23.5 | 6.6 | 14.7 | 11.4 | 31.1 | 28.9 | 18.2 |
| 1981 | 18.3 | 21.8 | 8.1 | 14.4 | 12.9 | 41.2 | 48.1 | 13.9 |

* : 1972 All other
1981 Masters

Sources: Derived from Digest of Education Statistics 1977-78 & 1983-84,
Department of Health, Education and Welfare, Washington,
National Centre for Education Statistics, U.S.A..

1979, 57% reported they did use the knowledge acquired during their studies. For graduates in economics and social sciences, the percentage (50%) was below the average (13).

2.5 The Falling Salary for Graduates

Another sign of the decline of the status of graduates in the labour market in the early 1970s was the fall in graduate salaries. Freeman pointed out that, in the United States, the fact that

"the salaries or income of college-trained workers...underwent a major and unprecedented downturn in the 1970.... By all relevant indicators, the income position of young graduates deteriorated sharply relative to that of other workers. From 1970 to 1975 the spring and summer bourse yield to new graduates in most specialities substantially lower real salaries than had been attained in the past" (14).

Although the salaries of new graduates did fall sharply during the first half of 1970s, from 1976 to 1981 the trend reversed and salaries for most specialities increased and average annual incomes in constant dollars rose 25%. Then, between 1981 and 1985, except for graduates specialised in health, education and "miscellaneous" areas, salaries for graduates declined in constant dollars - on average 2% (Table 2-9). After analysing the phenomenon H.L.Smith said that "in the 1970s, college graduates had, for the first time, a markedly diminished chance of obtaining the type of job normally associated with a college education. However, the relative incomes of college graduates have not changed as dramatically" (15). Another explanation for the decline of salary of graduates was associated with the economic

Table 2-9 Percentage Change in Annual Salary of Bachelor's Degree Recipients Employed Full Time, by Field of Study : United States, 1976 to 1985

| | Percentage change in constant dollars | |
|----------------------------|--|--------------|
| | 1976 to 1981 | 1981 to 1985 |
| Total | 25 | -2 |
| Engineering | 15 | -9 |
| Business & management | 0 | -3 |
| Health | 25 | 2 |
| Education | 14 | 1 |
| Public affairs & services | - | -6 |
| Biological sciences | 40 | -12 |
| Physical sciences & Maths. | 45 | -9 |
| Psychology | - | -2 |
| Social sciences | 31 | -5 |
| Humanities | 36 | -7 |
| Communications | - | - |
| Miscellaneous | 39 | 4 |

Source: Digest of Education Statistics, 1987, Department of Health, Education and Welfare, Washington, National Centre for Education Statistics, U.S.A., P.293.

crises in the 1970s and the earlier 1980s. When the economic growth return to normal, the situation may not be as serious.

In Japan, Ushioji compared the starting salaries of high school and 4-year college graduates and found a similar pattern: before 1970 college graduates enjoyed higher salaries than high school graduates. However, since the mid-1970s, their prospects of relatively high income have declined (16). Table 2-10 shows that the ratio of starting salary of 4-year college graduates to high school graduates in 1965 was 1.40. It declined to 1.19 in 1975, but increased a little to 1.23 in 1980. Thus the relative starting salaries of higher education graduates declined at the beginning of 1970s but increased slightly a few years later. This problem of declining salaries was not as serious a problem as other problems mentioned earlier (such as the weak relationship between job and field study). According to Clogg and Shockey's study of occupational mismatch, "college graduates are squeezing high school graduates out of their traditional jobs, that high school graduates are squeezing non-high school graduates out of their jobs, and so on" (17). That perhaps is the reason the relative income returns from a college education are not markedly inferior.

To sum up, employment problems for graduates started emerging at the beginning of the 1970s in developed countries. They resulted from the stabilisation of the occupational structure and the resulting inability of the labour market to absorb increased numbers of qualified workers. As a result, qualified graduates were often forced to accept non-professional or non-graduate jobs. Graduates

Table 2-10 Starting Salary of Male University and High School Graduates in Japan 1965-1980 (Japanese Yen)

| (1) Year | (2) 4-year-college graduates | (3) High school graduates | Ratio(2)/(3) |
|-------------|------------------------------------|---------------------------------|--------------|
| 1965 | 22,980 | 16,430 | 1.40 |
| 1970 | 37,400 | 28,400 | 1.32 |
| 1975 | 83,600 | 70,400 | 1.19 |
| 1980 | 114,500 | 92,800 | 1.23 |

Source: adopted from Ushioji, M. (1984) Job Prospects of College Graduates in Japan, Wissenschaftlichen Zentrum für Berufs-und-Hochschulforschung Gesamthochschule Kassel, P.23.

in non-vocational subjects experienced more problems in finding appropriate employment than those in vocational-oriented subjects. However, the declining demand for graduate in the labour market did not have such a large effect on graduate salaries relative to salaries of non-graduates. As mentioned, the graduate employment problems have to some extent been solved in the 1980s, either by improved manpower planning, declining enrolments of students or lowering graduates' expectations of future careers. Although these adjustments did have the effect of reducing graduate unemployment, however, it was not sufficient to justify a suggestion that employment problems of graduates are a product of a temporary failure of education to adapt to economic change. Cultural, social and psychological dimensions of graduate employment should be considered.

2.6 Employment Problems of Graduates in Taiwan

The employment problems of graduates in Taiwan have many similarities with those in industrialised countries. The unemployment rate of graduates has been increasing since the mid-1970s; those who studied in humanities and social sciences had more difficulties in finding jobs when the labour market for graduates started to decline; the relationship between work and fields of study also appeared weak in Taiwan, the salaries of graduates increased slowly compared with previous decades. Certainly Taiwan has her specific problems and difficulties for graduates arising from her specific economic system and structure of employment.

Unemployment Rate

The unemployment rates prevailing among both Taiwan's labour force in general and also its college-trained labour force were much lower during 1976-1986 than those in the United States or the United Kingdom (The figures available are not really comparable as they are based on different definitions of unemployment, but can be used as a guide). By way of contrast, the unemployment rates in Taiwan's labour force as a whole were similar to those in Japan during this period, but the rates among higher education graduates seemed lower than Japan's. Compared with other countries Taiwan's graduate employment problems seemed less serious. However, in Taiwan the unemployment rates of college-trained workers were consistently higher than average unemployment rates between 1976-1985; and the unemployment rate of university-trained workers has been higher than the average since 1982. The difficulties of graduates in finding jobs began in the mid-1970s and grew worse after 1982. The percentage of those unemployed who had higher education qualifications increased (see Table 2-11). This happened much later than in the developed countries. One reason could be the expansion of higher education had itself started later in Taiwan. In 1982, of a total figure of 128,000 unemployed, those who had received higher education amounted to 4,000. The percentage of those unemployed with higher education qualification amongst the total unemployed was 3.1% in 1965, increasing to 11.0% in 1975 and to 17.3% in 1983, indicating the worsening conditions of the graduate labour market in Taiwan.

Surveys conducted for the Ministry of Education and the National Youth Commission give the unemployment rates of university and college graduates as 4.6% in 1962, 1.1% in

Table 2-11 Unemployment Rates of the Whole Labour Force and of Graduates of Higher Education Institutions in Taiwan (%)

| | Whole labour force | College graduates | University graduates |
|------|--------------------|-------------------|----------------------|
| 1977 | 2.7 | 3.8 | 2.6 |
| 1978 | 2.7 | 2.7 | 1.9 |
| 1979 | 2.2 | 2.5 | 1.9 |
| 1980 | 2.1 | 2.6 | 1.9 |
| 1981 | 2.2 | 2.6 | 1.9 |
| 1982 | 2.1 | 3.4 | 2.7 |
| 1983 | 2.7 | 4.6 | 3.4 |
| 1984 | 2.4 | 4.2 | 3.5 |
| 1985 | 2.9 | 4.7 | 3.7 |
| 1986 | 2.6 | 4.0 | 3.6 |

Sources : 1. Annual Report of Labour Statistics, 1987, Taipei, Directorate-General of Budget, Accounting and Statistics.
 2. Monthly Report of Human Resources Statistics, June, 1987, Taipei, Directorate-General of Budget, Accounting and Statistics.

1963 and 1.7% in 1964; rising to 28.2%, 38.2% and 35.8% in 1976, 1977 and 1978; and then falling slightly to 23.9% and 26.2% for university graduates and 35.3% and 36.0% for junior college graduates in 1980 and 1984 (18). This shows that the graduates of junior colleges had more difficulties than university graduates in finding jobs. The same situation could be found in Great Britain where polytechnic degrees had less prestige in the labour market than university degrees (19). C.M.Wang attributed the unemployment problem of junior college graduates to the over-expansion of junior colleges and their shortage of qualified teachers and well-equipped facilities. As a result the quality of their graduates is quite variable; the better qualified will fill the vacancies left open by university graduates and the worse have no alternative but to take jobs normally filled by high school graduates (20).

Occupational Structure

The change in occupational structure which absorbed highly qualified manpower in developed countries did not happen in Taiwan in the 1970s. Taiwan's economic development was still far behind the developed countries when the expansion of higher education started. As a result the employment problems developed differently. In 1966, during the period of export promotion in Taiwan's economic development, the agricultural sector still employed 45% of the total labour force, as against 22.6% in the industrial sector. In 1968 agricultural, animal husbandry and forestry workers, fishermen and hunters amounted to nearly 40% of the total work force, while production and related workers still accounted for only 26.79% (Table 2-12).

Table 2-12 Employed Persons by Occupation in Taiwan (No. & %)

| | 1968 | 1976 | 1981 | 1988 |
|--|------------------|------------------|------------------|--------------|
| Grand total | 4,226 (100.) | 5,663 (100.) | 6,672 (100.) | - (100.) |
| Professional, technical & related workers | 212 (5.01) | 295 (5.21) | 373 (5.59) | - (6.72) |
| Administrative & managerial workers | 142 (3.36) | 130 (2.30) | 58 (0.87) | - (0.94) |
| Clerical & related workers | 287 (6.79) | 519 (9.16) | 889 (13.32) | - (15.12) |
| Sales workers | 538 (12.73) | 669 (11.81) | 859 (12.87) | - (14.28) |
| Service workers | 257 (6.08) | 317 (5.60) | 498 (7.46) | - (8.64) |
| Agricultural, animal husbandry & forestry workers, fishermen & hunters | 1,658 (39.23) | 1,639 (28.94) | 1,241 (18.60) | - (14.28) |
| Productive & related workers, trans. equipment operators & labourers | 1,132 (26.79) | 2,095 (37.00) | 2,753 (41.26) | - (40.00) |

Source: Monthly Report of Statistics, June, 1989, Taipei, Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R.O.C..

In succeeding years Taiwan was strongly committed to labour-intensive industrial development. As a result the need for production workers became urgent. By 1976, the number of production and related workers had increased to 37% of the total labour force. On the other hand, between 1968 and 1976 only a small proportion of the workforce was employed in "graduate type" jobs - professional, technical, administrative and managerial work - less than in Japan and far less than in the United States and Great Britain (refer Table 2-3). However higher education had greatly expanded since 1967. This explains why the occupational structure in Taiwan in the mid-1970s could not absorb many of the graduates produced. Even now that Taiwan is shifting emphasis from labour-intensive to capital- or technological-intensive industry, the growth of professional and technical or administrative and managerial employment is still not large enough - from 5.21% to 6.72% of total employment between 1976 and 1988. Hence, the employment prospects of many graduates from universities and junior colleges are still poor compared to the mid-1970s.

Employment Opportunities and Field of Study

As happened in developed countries, the unemployment rates of graduates from different disciplines are quite divergent. Just as in the United States and Great Britain, those in Taiwan who majored in liberal arts and pure sciences had greater difficulties in finding jobs. However, what is more serious in Taiwan is that those specialised in law and commerce and business also could not find jobs easily. In a series of surveys of the National Youth Commission, the law graduate unemployment rates generally exceeded those graduates in other disciplines since 1978 (Table 2-13).

Table 2-13 The Unemployment Rates of Graduates of Higher Education Institutions by Disciplines (%)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---------------------|-------|-------|-------|-------|-----|------|------|------|
| Liberal arts | 31.94 | 26.69 | 28.55 | 18.96 | 7.7 | 15.1 | 8.6 | 18.7 |
| Law | 32.83 | 27.87 | 30.83 | 22.28 | 3.7 | 16.5 | 9.9 | 21.4 |
| Commerce & business | 28.86 | 29.16 | 24.83 | 17.20 | 6.7 | 14.6 | 8.6 | 19.4 |
| Science | 29.04 | 21.31 | 29.36 | 14.55 | 4.1 | 9.7 | 5.9 | 18.8 |
| Engineering | 14.35 | 13.12 | 22.94 | 13.84 | 3.9 | 8.6 | 7.8 | 12.4 |
| Medicine | 25.00 | 16.27 | 9.38 | 9.02 | 2.2 | 1.3 | 1.6 | 7.9 |
| Agriculture | 26.74 | 20.65 | 28.13 | 19.80 | 6.2 | 10.6 | 15.7 | 16.4 |
| Management | - | - | - | 19.43 | - | - | - | - |
| Education | - | - | - | 7.77 | 1.3 | 2.1 | 1.6 | 2.0 |

(1): 1978 survey of 1977 graduates; (2): 1982 survey of 1980 graduates;
 (3): 1983 survey of 1981 graduates; (4): 1984 survey of 1982 graduates;
 (5): 1985 survey of 1982 graduates; (6): 1985 survey of 1983 graduates;
 (7): 1986 survey of 1983 graduates; (8): 1986 survey of 1984 graduates;

Note: The methods used in (5) to (8) surveys are different from (1) to (4), therefore, the figures of them are not really comparable.

Sources: (1) from Survey on Destinations of 1977 Graduates of Universities and Junior Colleges, 1978, Taipei, National Youth Commission.
 (2) from Survey on Destinations of 1980 Graduates of Universities and Junior Colleges, 1982, Taipei, National Youth Commission.
 (3) from Survey on Destinations of 1981 Graduates of Universities and Junior Colleges, 1983, Taipei, National Youth Commission.
 (4) from Survey on Destinations of 1982 Graduates of Universities and Junior Colleges, 1984, Taipei, National Youth Commission.
 (5)&(6) from Survey on Destinations of 1982 and 1983 Graduates of Universities and Junior Colleges, 1985, Taipei, National Youth Commission.
 (7)&(8) from Survey on Destinations of 1983 and 1984 Graduates of Universities and Junior Colleges, 1986, Taipei, National Youth Commission.

This could be attributed to Taiwan's rigorous national qualified examination for lawyers and attorneys.

The most probable reason for the difficulties of commerce and business graduates is their oversupply. Although employment of clerical and sales workers increased between 1968 and 1988 - clerical workers, from 6.79% to 15.12% of total employment, and sales workers, from 12.73% to 14.28% (see Table 2-12) - these posts normally only required the completion of secondary education. Graduates in certain unpopular disciplines had greater difficulties even in finding jobs which did not require higher qualifications. A report of the Council for Employment indicated that of 1969-1972 female graduates, the unemployment rates for those in business mathematics and in radiology reached 100%, for those in urban planning, tourism and mining engineering, the unemployment rates were 40%-50%. It seems that the mismatch between demand for and supply of graduates in Taiwan's labour market is very serious (21). The difficulties in finding jobs for female graduates were even greater when there was oversupply.

Field of Study and Work

The weak relationship between job and field specialisation is a more serious problem than graduates unemployment in Taiwan. In a survey of 1968 graduates, the National Youth Commission found that one-fourth of all respondents were engaged in jobs which were not related to their degree specialisation. In their 1987 report on graduate employment, the Council found that 34.8% of 1984 and 35.7% of 1985 graduates of higher education institutions were engaged in jobs which had little or no relation to their degree subjects (22).

The extent of relationship between job and study field of graduates varies between disciplines. In a survey of 1975 male and 1977 female graduates (23), it was found that the proportion thinking that their careers were very related to their degree specialisation were high amongst medical science (78.46%) and engineering graduates (60.18%) (Table 2-14). The highest proportions of graduates considering that their careers had no relation to their specialisation were found amongst graduates in law (22.18%), agriculture (19.05%) and humanities (16.23%). In the survey of 1980 male and 1982 female graduates, those who thought there was no relationship between career and specialisation were concentrated amongst agriculture (19.23%) and humanities graduates (17.57%) (Table 2-15). Given the non-vocational nature of humanities curricula, it is not surprising that humanities majors felt their jobs had no relation to their academic specialisation. As for the weak relation between field and job among graduates in agriculture, this could be attributed to many agriculture graduates choosing, by preference, jobs unrelated to agriculture. In a survey of agricultural graduates of 1972, W.J. Lee and C.L.Chen found that, although 70% of total respondents expressed their willingness to go to the country and take jobs there, only 47% did go when they had the opportunity (24).

In the survey of 1984 and 1985 graduates conducted by the National Youth Commission, most law and humanities graduates again saw little or no relation between their job and specialisation (for law graduates, 49.2%, humanities graduates 44.9%). It seems quite surprising that many law graduates were engaged in non-legal jobs. According to my

Table 2-14 Relationship of Job of First Degree Recipients to Major Field of Study : Taiwan, 1980 (No. of Graduates & %)

| | Total | Closely related | Partly related | No relation | No response |
|---------------------|---------------|-----------------|----------------|--------------|-------------|
| University | 4,384 100. | 2,113 48.20 | 1,455 33.19 | 526 12.00 | 290 6.61 |
| Humanities | 912 100. | 390 42.76 | 303 33.22 | 148 16.23 | 71 7.79 |
| Law | 487 100. | 131 26.90 | 216 44.35 | 108 22.18 | 32 6.57 |
| Commerce & business | 821 100. | 318 38.73 | 365 44.46 | 87 10.60 | 51 6.21 |
| Science | 479 100. | 241 50.31 | 138 28.81 | 73 15.24 | 27 5.64 |
| Engineering | 1,301 100. | 783 60.18 | 361 27.75 | 70 5.38 | 87 6.69 |
| Medical sciences | 195 100. | 153 78.46 | 24 12.31 | 4 2.05 | 14 7.18 |
| Agriculture | 189 100. | 97 51.32 | 48 25.40 | 36 19.05 | 8 4.23 |

Source: Survey on Destinations of Graduates of Universities and Junior Colleges, March, 1980, Taipei, National Youth Commission.

Table 2-15 Relationship of Jobs of First Degree Recipients to Major Fields of Study : 1980 male and 1982 female graduates (No. & %)

| | Directly related | Closely related | Little related | No relation | Total |
|---------------------|---------------------|--------------------|-------------------|----------------|--------------|
| Humanities | 120 20.27 | 187 31.59 | 181 30.57 | 104 17.57 | 592 100. |
| Law | 46 14.94 | 95 30.84 | 124 40.26 | 43 13.96 | 308 100. |
| Commerce | 87 20.28 | 165 38.46 | 134 31.24 | 43 10.02 | 429 100. |
| Sciences | 66 24.26 | 100 36.76 | 68 25.00 | 38 13.97 | 272 100. |
| Engineering | 136 22.48 | 258 42.64 | 160 26.45 | 51 8.43 | 605 100. |
| Medical sciences | 75 65.79 | 35 30.70 | 4 3.51 | 0 0.00 | 114 100. |
| Agriculture | 22 28.21 | 25 32.05 | 16 20.51 | 15 19.23 | 78 100. |
| Management | 21 8.33 | 89 35.32 | 117 46.43 | 25 9.92 | 252 100. |
| Education | 33 34.74 | 37 38.95 | 18 18.95 | 7 7.37 | 95 100. |
| Total | 606 22.08 | 991 36.10 | 822 29.95 | 326 11.88 | 2745 100. |

Source: Survey on Destinations of 1983 Graduates of Universities and Junior Colleges, April, 1986, Taipei, National Youth Commission, P.184.

own survey of 1984 graduates in law from Taiwan University, even though there was a great deal of demand for lawyers' assistants and legal personnel, many graduates would rather keep on sitting the national examination every year to become fully qualified lawyers rather than seek immediate work - even though the number who could qualify as lawyers is very small. If they still can not pass the examination several years after graduation, normally they change their occupation, rather than taking a lower status legal job (25).

The usefulness of course of study in jobs was investigated the relationship between job and specialisation. In my own survey of graduates' opinions of the usefulness of their university curricula in their careers (Table 2-16), among 127 graduates there were 61 who thought that their course of study were "useful", most of them from fields of commerce and business, medicine, and engineering. Most of those who thought their course of study "not useful" had specialised at university in commerce, business and humanities. The fact that the business world is so varied might explain why business and commerce graduates have such divergent opinions about applying knowledge to work.

Job and Qualification

The underemployment problem (job is not equivalent to educational qualification) of Taiwan's graduates seems more serious than that in developed countries. As mentioned earlier, the change of occupational structure in Taiwan created more employment for production workers (from 26.79% to 40%), clerical workers (6.79% to 15.12%) and service workers (6.08% to 8.64%) in the past twenty years (refer Table 2-12). Production and service work normally did not

Table 2-16 The Graduates' Opinions of the Usefulness of University Courses to Careers : by disciplines (No. & %)

| | | Very useful | Useful | Not useful | No response |
|------------------------|-----|----------------|------------|------------|-------------|
| Humanities | 22 | - | 7 (11.5) | 13 (25.0) | 2 (-) |
| Law | 15 | - | 10 (16.4) | 4 (7.7) | 1 (-) |
| Commerce & business | 32 | - | 16 (26.2) | 16 (30.8) | - (-) |
| Sciences | 6 | - | 1 (1.6) | 4 (7.7) | 1 (-) |
| Engineering | 23 | - | 11 (18.0) | 7 (13.5) | 5 (-) |
| Medicines | 23 | 4 (80.) | 13 (21.3) | 6 (11.5) | - (-) |
| Agriculture | 6 | 1 (20.) | 3 (4.9) | 2 (3.8) | - (-) |
| Total | 127 | 5 (100.) | 61 (100.0) | 52 (100.0) | - (-) |

Source: My own survey of graduates of Taiwan and Tanchiang University, 1988

require college credentials. Even though graduates with humanities and social science specialisations may be recruited into clerical work, it does not satisfy their needs. By 1975 over 50% of all graduates came from these two fields. Many graduates were forced into non-graduate employment. According to surveys of the National Youth Commission of graduates of 1983, 1984 and 1985, 32.2%, 27.6% and 28.5% of university graduates (26) and 31.3%, 6.4% and 8.4% of junior college graduates were in jobs not of equivalent status (27). Another survey, instigated by the Directorate-General of Budget, Accounting and Statistics and the Council for Economic Planning and Development, also showed that 28.8% of junior college graduates and 18.4% of university graduates were engaged in jobs which were not equivalent to their qualifications. Among these university graduates, although 24% male graduates and 15% female graduates had been attracted by high salaries to do non-college jobs, the majority of those graduates with non-equivalent jobs were not highly paid and suffered relative hardship (28).

Salary

The salaries in Taiwan's labour market of university and college graduates also fell. In 1972 the average starting salary of university graduates was 2.23 times that of junior high school graduates. It fell to 1.51 times by 1976 and 1.40 times by 1980 (29). Table 2-17 shows that the range of average real wage growth rates for various occupations were quite narrow between 1979 and 1983. Even so, the wages of production and related workers rose a little faster than those of administrative and managerial workers. C.M.Hou and H.L.Wu thought that the expansion of higher education increased the supply of high-level manpower, thus slowing

Table 2-17 Real Wage Growth Rates in Taiwan, by Occupation

| Occupation | Average growth rate (1979-1983) |
|--|--------------------------------------|
| Total | 5.59 |
| Professional, technical & related workers | 6.18 |
| Administrative & managerial workers | 4.73 |
| Clerical & related workers | 5.64 |
| Sales workers | 5.65 |
| Service workers | 5.26 |
| Agricultural, animal husbandry, & forestry workers, fishermen & hunters | 5.09 |
| Productive and related workers, transport equipment operators & labourers | 4.95 |

Source: adopted from C.M. Hou & H.L. Wu (1985) Wages & Labour Productivity in Taiwan, Economic Papers No.73, Chung-Hua Institute for Economic Research, Taipei, Taiwan, R.O.C., P.4.

the rate of increase of compensation for high-salaried personnel (30).

In my own survey of graduates of the National Taiwan University and the private Tan Chiang University, 18.1% of all respondents felt their salaries were "satisfied". 44.9% just thought they were "acceptable" and 24.4% of them felt it "not satisfied". Comparing graduates of the national and the private universities, Table 2-18 shows that fewer graduates of Tan Chiang University than of Taiwan University felt their salary was "not satisfied". The reason could be that graduates of the national university had higher salary expectations than private university graduates. Unrealistic salary expectations can cause some students difficulties in finding jobs (this is relevant to students' career aspirations which will be discussed in chapter 7).

Specialists from various fields have analysed the mismatch between demand for and supply of Taiwan's graduates. C.M.Wang, in his article "Tai Wan Ti Chu Jen Li Tzu Yuan Chih Yuan Yung" (The utilisation of human resources in Taiwan area), pointed out that Taiwan is still in great need of highly qualified technological manpower, such as specialists in mechanical engineering, electronic and electrical engineering, information technology, material science and industrial engineering. However, Taiwan's higher education institutions supplied too few of these specialists and too many graduates in humanities and social sciences (31). H.Y Chu attributed the problem to a dilemma faced by developing countries seeking to expand education. He claimed that in order to promote economic development developing countries need to expand education in the applied

Table 2-18 The Extent of Satisfaction with Present Salary of Taiwan & Tan Chiang University Graduates (1984 male & 1986 female)(No. & %)

| | Total | Very satisfied | Satisf- ied | Accep- table | Not satisfied | No response |
|--------------------------|-----------|-------------------|----------------|-----------------|------------------|----------------|
| | 127(100.) | - | 23(18.1) | 57(44.9) | 31(24.4) | 16(12.6) |
| Taiwan University | 83(100.) | - | 13(15.7) | 33(39.8) | 23(27.7) | 14(16.9) |
| Tan-Chiang University | 44(100.) | - | 10(22.7) | 24(54.5) | 8(18.2) | 2(4.5) |

Note: the graduates of both universities are from various disciplines.

Source: My own survey of Taiwan and Tanchiang University Graduates, 1988

sciences and technology. A great deal of capital investment is required to provide education in these areas. However, developing countries do not have a great deal of capital. Consequently, even if these technological fields are emphasised by government, their pace of development is still slow. On the other hand, expanding the study of humanities and social sciences requires relatively little capital investment and as a result these areas expand quickly in developing countries (32). Taiwan is an example of this.

Another view is that the mismatch problem arises from the inflexibility of university departmental adjustment of numbers of enrolments. The Editorial of China Times (21,9,1983) claimed that "hot departments" (popular) should enrol more students and "cold departments" (unpopular) should reduce the number of enrolments to alleviate the mismatch problem. This would suggest that rigid limitation of total enrolment by the Ministry of Education is not effective. W.F. Kuo also claimed that the rigid limitation on setting up new departments not only prevented higher education institutions meeting social needs but also led to the retention of redundant departments. That was another reason why graduates had difficulties in finding satisfactory jobs (33).

These explanations of the causes of the employment problems of graduates have an economic perspective. The mismatch between demand for and supply of graduates is expected to be solved in terms of more careful planning of higher education to meet the needs of the labour market. The expansion of Taiwan's higher education is mainly based on the assumption that investment in higher education can benefit to both nation at whole and individual, when the

employment problems of graduates became serious the government saw the solution in terms of economic strategies, such as forecasting manpower needs, and requiring the content of higher education to respond to the needs of jobs. This will be more fully discussed in the next chapter.

2.7 Conclusion

The brief review here of graduate employment problems in three developed countries - the United States, Great Britain and Japan - suggests that the over-expansion of higher education led to a decline in demand for graduates in the labour market since the beginning of the 1970s. The occupational structure tended to stabilise after the mid-1970s, which forced numerous graduates to accept non-professional and non-managerial jobs. However, the graduate unemployment problem is not as serious as the problem of graduates' careers having little or no relation to their previous specialisation. Although after 1970 the rate of growth of graduate salaries declined, graduates in the United States, Great Britain and Japan still had higher incomes than other workers.

The problem of over-expansion of Taiwan's higher education was also serious. The emphasis of the occupational structure had just started shifting from agricultural employment to industrial employment as the higher education institutions started producing highly-qualified manpower in large quantities. The economy needed large numbers of production and related workers. However, higher education institutions cultivated students to engage professional and managerial jobs. That is why graduates engaged in non-college type jobs in Taiwan were proportionately more

numerous than in developed countries. As the market declined, graduates of humanities, law and social sciences had greater difficulties.

However, the labour market for graduates qualified as technological manpower never declined. Enrolment of more students in technological disciplines was restricted by the shortage of qualified teachers and appropriate equipment at universities and colleges. Moreover there was a "brain drain" of graduates in this area. Between 1962-1967 more than fifty thousand graduates emigrated to the United States, among them 1,400 engineers and 610 natural scientists (34), which led to reduce return on educational investment in these fields.

Since the mid-1970s many specialists from different fields have explored the problems of the graduate employment market. Many of them have done so from the point of view of manpower planning, suggesting that the use of such plans could alleviate the problem. However, those strategies are based on the belief in economic function of higher education. Government policies in expanding higher education and reducing the difficulties of graduate employment also followed this approach. However, the educational adjustment to the economic change did not produce significant effects in reducing the employment problems of graduates. Perhaps the economic explanation of education should be re-examined.

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CHAPTER 3 THE ANALYSIS OF GRADUATE EMPLOYMENT PROBLEMS I - OVER-EXPANSION: ECONOMIC ASPECTS

The lack of co-ordination between economic development and higher education - exemplified by graduate unemployment and underemployment - which human capital theory had not anticipated may be explained either by the inadequate conceptualisation of the relationship between economic development and higher education or by the persistence of non-economic goals in universities. This chapter explores the first proposition while chapter 4 investigates the second.

The ineffectiveness of co-ordination between economic development and higher education may be investigated firstly by reference to some of the theoretical justifications which have been offered for the economic function of higher education. How far are these theoretical justifications valid, especially in Taiwan? How far can problems such as graduate unemployment be explained by the weakness of economic theories of higher education?

3.1 Theories Justifying the Expansion of Higher Education

It has been suggested that certain theories and ideologies prevailing in the 1960s gave the impetus to the expansion of education, particularly higher education. Modernisation theories, human capital theory and the screening hypothesis have been particularly influential and deserve special attention.

The Modernisation Theory

During the 1950s and 1960s, modernisation theories were developed to explain social change. These theories sought to distinguish between two types of society - underdeveloped "traditional" and developed "advanced" societies. The intention was to identify the characteristics that distinguished the two types and on that basis to explain why "traditional" societies did or did not develop into "advanced" societies. The premise was that social development proceeds according to a linear evolutionary model, from an underdeveloped to a developed society. Thus Western "advanced" society is assumed to be the destination of the development of traditional societies. Although these theories were criticised as being western-orientated, ideologically biased and ethnocentric (1), their emphasis on the modern values and individual motivation in promoting national development has reinforced the relationship between education and national economies.

W.W.Rostow contended that there are five stages in the process of transformation from a "traditional" society to an economically "mature" society: the traditional society, the stage of the preconditions for economic take-off, the take-off itself, the drive to technological maturity and the final stage of high mass consumption (2). The take-off stage is the most important, representing the point of transition from a predominantly "traditional" and to a predominantly "advanced" society.

Economic growth on its own is not sufficient to bring about take off:

"the achievement of preconditions for take-off required major change in political and social

structure and even in effective cultural values...(3)."

This suggests that education, particularly as part of the value-acquisition process, could have a major role and that changing and broadening education to meet the needs of modern economic activity may be unavoidable.

W.E. Moore defined modernisation as:

"a 'total' transformation of traditional or pre-modern society into the types of technology and associated social organisation that characterise the 'advanced', economically prosperous, and relatively politically stable nations of the Western world"(4).

He conceded that it is common for nations to seek modernisation by aiming directly for economic development. However, economic development does not always have to be the first priority. He views education as essential for "an informed electorate in a democratic regime, or as an agency for political indoctrination", even as "a form of cultural 'consumer good' for states dedicated to cultivation of the 'good life'"(5).

In the course of discussing motivational aspects of development, Moore also claimed that a fundamental difference of theoretical importance between undeveloped and highly industrialised regions lay in differences in human motivation. In industrialised regions market orientated values and attitudes are accentuated and these help increase both production and consumption. However, in undeveloped societies, a worker does not to expect "any considerable raising of ceilings on his consumption and social status" (lack of market orientation)(6). Therefore, only through the development of education and new values can demand be increased. Furthermore, Moore emphasised the importance of

education in promoting the continuity of a nation's growth. He claimed that:

"Growth seems to have been most probably continuous in the future where considerable resources have been devoted to formal education and where education and in-service training have been most closely geared to the skill demands of an industrial economy" (7).

Such an emphasis on the importance of education for development greatly encouraged underdeveloped countries to expand their education systems.

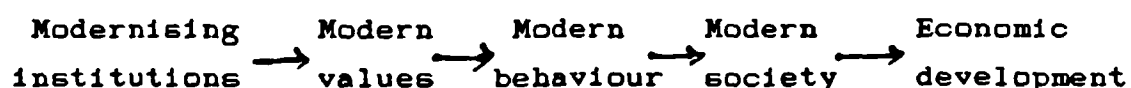
Although Rostow and Moore stressed the significance of education in economic development, their theories were based on economics. D.C. McClelland and A. Inkeles, approaching the issue of modernisation from the perspectives of psychology, of culture and of sociology, gave an even greater emphasis to education in national development.

McClelland contended that economic growth could be explained not only in terms of an economic model but also in terms of the psychological and sociological characteristics of individuals. He adopted T. Parson's terminology, which claimed that developed countries are characterised by "achievement norms", "universalism" and "specificity", whereas, underdeveloped countries are characterised by "ascriptive norms" "particularism" and "diffuseness". In developed countries people are evaluated in terms of what they can do (achieved status) rather than in terms of who they are (ascribed status). The relationship of one man to another is typically more specific, or limited to the labour contract, rather than diffuse as in a traditional society where economic relationships are tied intimately to all sorts of other relationships and involve kinship, political, religious and other social structures (8).

McClelland argued that the achievement motive, acquired during socialisation, is the critical factor which opens a society to economic and technological advance (9).

Inkeles emphasised not just the achievement motivation, but also the whole personality and attitudes of the individual in a modern society. He claimed that a nation or an institution will not be modernised unless the attitudes and capacities of people keep up with the progress of other forms of its development. In building a modern nation there is a need to have participating citizens who are interested in public affairs and accustomed to exercising rights and performing duties in a community. Moreover, modern institutions need individuals who can make judgements on the basis of objective evidence. Therefore, to have a modern and advanced society, most men and women must individually acquire modernity (10).

Inkeles believes that strategies to make men modern must operate through the particular life experiences that individuals undergo. Modernising institutions (such as factories and schools) can contribute to men's experience and shift their attitudes, values and behaviour, from those suited to a traditional society to those apt for modern society (11). Based on Inkeles' Becoming Modern, I. Fagerlind et al depicted a linear model of modernisation linking together modernising institutions, modern values, modern behaviour, modern society and economic development (12).



Inkeles' modernisation theory incurred much criticism, especially of the casual linkage between modern values and modern behaviours (13), treating society as static and assuming traditional institutions and values are impediments to changes and modernisation (14). However, Inkeles' modernity scale has been widely used to assess the degree to which a country is "advanced". In these terms the importance of education in economic development was reconfirmed.

Modernisation theories seemed attractive to many developing countries seeking to achieve social development. During the 1950s and 1960s, their governments, under the influences of such theories, regarded education as an important means of stimulating the adoption by their people of the appropriate attitudes and behaviour towards work and the appropriate values for a citizen in a modern society, and of increasing economic productivity. Third World countries became eager to expand their education systems in order to meet the need for national development.

Human Capital Theory

Modernisation theories were obviously less applicable to developed countries as they already set Western "advanced" society as the destination of social evolution. The parallel expansion of education in the industrialised countries during the same period seemed much more strongly influenced by human capital theory.

Since the Second World War neo-classical economic theories have been widely adopted. They were constructed to explore conditions of static equilibrium. There was a concentration on developing microeconomic theory (15). Traditionally neo-

classical economists had analysed labour as if it were a commodity, and labour exchange as if it were identical to other exchanges of commodities (16). However, S.Bowles and H.Gintis pointed out in an industrialised society, when the preparation of a worker to work required child rearing, education, health care and training, it became inevitable that neo-classical economists would shift from analysing labour as a commodity to treating the worker as an element of capital (17).

It was not a new idea to treat human beings as capital. In the 18th century Adam Smith had already included the acquired and useful abilities of all of the inhabitants of a country as a part of its capital (Schultz 1961, Blaug 1970) (18). However, it was not until 1960s that systematic studies adopting this perspective began. In the 1960 T.Schultz gave an address to the American Economic Association on the theme "Investment in Human Capital". Schultz argued that much of so called "consumption", such as education, health and internal migration, actually constitutes investment in human capital and that it is possible to explain differences in individual earnings in terms of different amounts of investment in human capital. Schultz delineated five categories of investment which could improve human capabilities - health facilities and services, on the job training, formal education, adult study programmes and migration. Of these, education seemed the most profitable for the individual. In Schultz's opinion, investment in education, from a microeconomic point of view, not only increases the individual's choice of career but also raises his/her earnings. From a macroeconomic perspective, it might also be seen to increase the worker's productivity and promote national development (19).

G.S.Becker extended Schultz's idea and tried to analyse "human capital" by more empirical methods. He strongly asserted that there is a positive relationship between on the one hand, education and training, and on the other, income. The more highly educated and skilled persons always tend to earn more than those with lower education and skills (20). Therefore, the inequality of distribution of income can be attributed to the different amounts of investment people have made in themselves.

R.P.Dore explained the correlation between educational level attained and lifetime earnings in terms of the "investment mechanism" and "institutional mechanisms" (21). The "investment mechanism" refers to the process of the individual investing in education in order to develop those specific personal characteristics or general mental ability which he/she thinks are associated with different kind of work (22). "Institutional mechanisms" refer to the correlation between education and earning which could be ascribed to certain established practices, for example, educational qualifications being used by employers to identify ability among applicants (which supposes that employers believe educational qualifications are evidence of applicable abilities) (23), or to provide a convenient criteria for shortlisting and selecting among applicants.

Thus human capital theory implied a major role for education in determining the earnings of the individual as well as in the promotion of national economic development as a whole.

However, a weakness of human capital theory is not so much in the notion of non-physical capital, but in the

difficulties involved in trying to measure this capital. H.G.Shaffer criticised the measurement of human capital because of the "impossibility to allocate a specific return to a specific investment" (24). Even though Schultz, used empirical studies in response (25), these criticisms have remained strong (Jencks et al, 1972; Bowles and Gintis, 1975; Fagerlind and Saha, 1987)(26).

The idea of "human capital" had a strong influence on decision-makers in educational policy during the 1960s. Investment in education to improve human resources seemed to have become the best strategy for the promotion of economic growth and the accumulation of national wealth. Whereas the development of primary and secondary education might be seen in terms of cultivating cultural heritage and citizenship rather than economic benefits, economic considerations played the major role in the expansion of higher education. R.B.Freeman stated that:

"During the 1950s and 1960s college and university systems expanded throughout the developed world fueled by the belief that education offered a sizeable economic return to the individual and was an important means of social growth. With rare exceptions, policy makers and analysts viewed higher education as a major road to economic well-being and in some instances as a panacea for social problems including reduction of income inequality. Resources flowed into higher education in unprecedented amounts" (27).

In explaining the reasons for expanding higher education, B.C.Sanyal also claimed that:

"Investment in human resources has been a powerful factor for economic growth..." and therefore "more and more money was invested in education, with the institutions of higher education receiving a large share of it, which was thought to be justified by salary differentials, even though the latter in

turn were based on educational differentials" (28).

The contribution of human capital theory to the expansion of higher education was the promise of higher individual earnings and the growth of national wealth. Even though the economic function of education was much emphasised, it still treated the educational process from a conventional view.

The Screening and Signalling

The screening hypothesis, through making different assumptions about the nature of the educational process, provided a different analysis of the relationship between education and income and an alternative explanation for the increasing demand for higher education. According to the conventional view, education is a process of skill acquisition, which assumed that each occupation has its unique level and type of skill, and these skills requirements can be directly translated into schooling requirements (29). Consequently the distinction between "education" and "training" is blurred (30). The conventional view sees differences in income as the product of different levels of skill acquired through schooling (31). The screening hypothesis suggested instead that: "education is no more than an elaborate screening device which acts as a filter in directing people with certain characteristics into occupational areas which require them. The screening process merely identifies people with and without particular traits but does not itself produce these attributes" (32).

Thus, educational institutions, particularly higher education institutions, operate solely as selection mechanisms, helping employers to choose the appropriate employees. In terms of the hypothesis, the motive of an individual to receive higher education is to obtain, not

skill or knowledge, but the qualification only. This could lead to "diploma disease" (the over-emphasis on qualifications). However the hypothesis presupposes that employers believe that there is in fact a correlation between educational qualification and the skills and attitudes employers require.

"Signalling" theory holds a similar view of the individual's demand for education. According to this theory there are two sets of characteristics which employers can observe when recruiting employees. The first set is termed by Spencer(1973) "indices", meaning unalterable traits such as age, race and sex. The second set comprises alterable traits, termed "signals", such as educational qualifications, test scores and health. "Even though employers are not sure what traits of workers relevant to productivity, basing on previous experiences with different combinations of signals and indices, the employers is assumed to form conditional assertions of any individual's productivity capacity." (33)

Basically, the assumption of "screening" and "signalling" are different from human capital theory in terms of the relationship between education and productivity. For the former, education has little to do with skill acquisition and productivity; for the latter, the relationship is positive. However, these theories share the ideas that education is a ladder to climb to higher occupational positions.

3.2 The Applications of Economic Theories in Higher Education

Modernisation theories and human capital theory justified the expansion of education/higher education in terms of economic implications of education. It led to demands that higher education should meet the needs of the economy. But more specific policies were devised through which the economic value of higher education could be realised.

Manpower Planning

Manpower planning or forecasting is used to guide the development of higher education. The basic belief of manpower planning, according to G.Psacharopoulos and M.Woodhall, is that

"skilled manpower is one of the most crucial inputs of a modern economy. Thus, to foster economic growth (and to avoid critical shortages or surplus of manpower), planners have sought to identify future requirements for skilled manpower and to design the education systems so as to produce a labour force with the necessary skills and technical or professional knowledge." (34)

In the 1950s and 1960s, manpower planning was to seek avoiding "critical shortages" or "critical supplies" of workers at various levels of skills. But since the unemployment problems became serious in the mid-1970s, those who believe in manpower planning started to use it to reduce unemployment.

B.Ahmad and M.Blaug indicated that the interest in manpower forecasting in the 1950s and 1960s are from three sources:

"there were those interested in linking educational expansion to what were called the 'manpower requirements' of a growing economy; there were others who realised that target-setting for GNP eventually entailed a translation of these

targets into their individual components, one of which was the manpower structure associated with different levels of output; lastly, there were those concerned with vocational counselling and placement services who felt that manpower forecasting could provide a rational basis for their activities." (35)

For manpower planners, higher education held much more interest than the other levels of education. One reason was that graduates of higher education institutions will enter the labour market directly except those few pursuing advanced studies. Another reason was the expansion of higher education was faster than other areas, so that manpower planning aimed to avoid the wastage of resources. O.Fulton et al indicated two reasons why manpower planning was supported as the basis of the provision of higher education.

"The first is that higher education makes extremely heavy demands on society's resources and it is inefficient and inequitable to treat it simply as a luxury consumption good for a relatively small number of people. The second is that even in countries where higher education provision is based upon social demand a very high proportion of the students do themselves consider that it has vocational implications for them." (36)

Manpower planning or the idea that a certain level of skilled manpower is necessary to achieve a particular economic targets is based on two assumptions. Psacharopoulos and Woodhall pointed out first it assumes a fixed relationship between the input of skilled manpower in different occupational categories in an industry or the economy as a whole and its level of output and second, there is a fixed relationship between the educational qualifications of workers and their productivity (37). The second one is also the assumptions of the human capital

theories. Certainly, these assumptions incurred numerous criticisms, however, the ideas of manpower planning joined by human capital theories have influenced the planning of higher education since the 1960s in many countries.

Policies within Higher Education

Adoption of human capital theories and manpower planning strategies also influence changes of policy and practice within higher education. Two such areas are the content of higher education and careers guidance.

The Content of Higher Education

For human capital theory, the relationship between qualifications and productivity resides in the contribution of the content of education, especially cognitive skills. Therefore the curriculum of higher education should be relevant to the requirements of jobs. As technology and industry progress, universities introduce new disciplines to respond to those needs. The curriculum is required to impart the new information and knowledge. Furthermore, the collaboration between university/higher education institutions and industry encourages advanced research to benefit both institutions. Students under this collaboration can explore the real world of work and have more knowledge and up to date information about industrial development.

Careers Guidance and Counselling

The services of careers guidance and counselling in higher education institutions were given attention in human capital theories and other relevant economic theories. According to M.Carnoy, the orthodox view of employment/unemployment is

derived from the concepts of competitive equilibrium and marginal productivity,

"in competitive equilibrium labour receives wages equal to its marginal contribution to output. If a competitive equilibrium is interfered with either in product markets or in the labour market itself, to distort the prices of factor inputs, unemployment can result. (38)"

The distortions create unemployment. The reasons for individuals misinvesting include (a) institutional distortion, for example State schools produce a product which is not suitable as an output in the production process, and (b) wages system cannot accommodate all those who aspire to the high-paying jobs. Carnoy indicated two other reasons for misinvestment. The first is inefficient information systems. Students will not be able to know what types of jobs are available and to invest correctly in skills. Secondly, disequilibria in the economy caused by new kinds of technology leave large groups of workers unemployed because they are not trained to do the new kinds of work but only old kinds no longer required (39). In this situation, the collecting of information about the labour market would be an important task of the careers services in higher education institutions.

The above theories and arguments tended to reinforce the notions of human capital theory and further encourage the expansion of higher education. However, the global economic crisis in the mid-1970s, causing a fall in demand for graduates in the labour market, was seen as a major challenge to theories that higher education lead to national economic prosperity or individual success and their popularity tended to wane with the end of the "golden age" of higher education.

3.3 The Failure of Economic Theories and its Relationship to the Employment Problems of Graduates

The theories described above did not anticipate that an overexpansion of education, especially higher education, would create so many problems in developed countries. Human capital theory had suggested that investment in education would be highly profitable for the individual. However, the decline in demand for graduates in the labour market led to many graduates being disappointed. Their heightened expectations made their employment problems particularly difficult to deal with.

There are criticisms of human capital theory. Some criticised its conceptual framework. Others were concerned with the practical difficulties in seeking to measure "human capital" (40). The discussion of the weaknesses of the theory here will be restricted to those aspects related to the employment problems of graduates. The relationship between education and future income is not as strong as was believed if other factors in determining future income, such as sex, race and home background, are allowed for. B. Bluestone pointed out numerous research findings show that women and black males have lower pay than white males with the same educational qualifications and that those unemployed do not necessarily have less "human capital". He criticised the theory for failing to deal properly with the relationship between human resources and the structure of the economy. Human capital theory assumed that "once the human capital of an individual was raised, he or she would be able to rise above low-wages employment, underemployment, or joblessness" (41). In reality the expanded number of graduates (still expecting high incomes and returns on their

educational investment) found low demand for their skills in the labour market.

With regard to the relationship between education and productivity, Gintis claimed that education only makes an indirect contribution to productivity. He said,

"what is important to employers about education is not so much that it provides technical training as that it socialises for docile and efficient adaption to work in bureaucratic and industrial hierarchies" (42).

The labour segmentation theory makes totally different assertions. The theory implies that employment structure is not determined by the distribution of productivity. Education and experience in employment does not lead to higher productivity and employment probability. Therefore, the connection between workers' characteristics and employment is not primarily economic but tends to be socio-institutional (43). From this point of view, M. Carnoy suggested that employment policy should be focused on the nature of labour markets rather than on the characteristics of workers in those markets. He stated,

"If the educated are becoming unemployed, segmentation theory would concentrate on analysing the changing nature of the jobs held by secondary and university graduates rather than the nature of their education or the 'mismatch' of education and job (44)."

This theory did compensate the weakness of human capital theory in describing the nature of labour market. It takes a broad social and institutional view. However, in considering the employment problems of graduates, values, attitudes and aspirations of policy-makers and graduates are not included. These cultural and social values also have

effects which have not been explored in these economic theories.

3.4 The Application of Economic Strategies in Education in Taiwan

Manpower planning and human capital theories have been adopted in Taiwan as the basis of education planning since the early 1960s. In 1961 experts in manpower planning from the Stanford Research Institute of the United States were invited to Taiwan. In their research on the contribution of manpower to economic growth, education planning was their main concern. The forecasting of qualified manpower was adopted by government. The assumption was that the contribution of education to economic development was to equip labour with more knowledge and skills so increasing worker productivity. Since then the economic function of education, particularly, higher education has been emphasised by the government. In 1964, the Ministry of Education cooperated with the UNESCO undertaking a long-term educational plan - A Preliminary Draft of the Long-range Educational Plan 1964-1982. This plan covered almost every aspect of the development of human resources and suggested implications for policy-making (45).

Although there were difficulties in investigating the needs of the labour market, in collecting data and even in statistical methods of manpower forecasting, manpower plans have been used in Taiwan's Economic Construction Plans since 1966. More detailed discussion is given in chapter 5. Conflicts have been noted in evaluating the effects of these strategies applied in education planning. C.S.Shih indicated that education in Chinese traditions has its own

values. Thus to use it as an instrument for economic development is not easily accepted by Chinese.

In spite of this, economic theories of education were introduced and supported by many educators and economists. K.T.Li, adopting human capital theory, claimed that education should give first priority to fostering engineers, managerial and technical personnel. He argued that it was not enough for education simply to expand quantitatively. It must be designed to meet the manpower needs of the economic system. If educational investment did not increase the graduates' employment opportunities, he concluded that the investment was totally wasted (46). H.C.Kao also thought that the aim of education was to maximise the return of educational investment(47). In discussing educational plans, Y.M.Fang also advocated proper planning of the educational system to maximise returns on a finite expenditure(48). K.H.Chen pointed out manpower planning should be used to guide students before entering university in their choice of subjects by indicating to them which disciplines are expected to be in high demand in the job market when they graduate (49). From the perspective of economics of education, C.H.Lee asserted that the university has two main tasks: first, to promote national development and, second, to respond to changes of economic structure (50).

Human capital theories have influenced policy-makers in the expansion of higher education in Taiwan. Higher education has been demanded by students in terms not only of traditional prestige but of economic value. In other words, human capital theories have had a major impact on the expansion of higher education. Since the unemployment

problems of graduates became serious, the understanding of their causes must include social and cultural factors. These social, cultural concerns and conventional ideologies of education have been challenged by the rapid changes of industrialisation and the economic function of higher education. They will be discussed in next chapter.

3.5 Conclusion

Modernisation theories, human capital theories, the screening hypothesis and the signalling concepts justified the expansion of education/higher education in terms of its economic benefits. These theories and hypothesis encouraged governments and individuals to invest in education and to expect growth of GNP and individual earnings.

These theories have influenced educational planning to respond the needs of the economy and the labour market. Manpower planning has been used as a guide for higher education institutions to supply adequate numbers of individuals for the labour market. There have been demands that the content of higher education should fit the requirements of jobs. Collaboration between industry and university has been supported for benefit of universities and students in terms of latest information and knowledge of industrial development. Careers guidance and counselling has been demanded to guide students to find suitable jobs.

Taiwan has adopted manpower planning and human capital theories since the early 1960s. Policy-makers and educators have encouraged the expansion of higher education in terms of its economic function. However, when the employment problems of graduates became serious in the late 1970s, the

economic theories and strategies were insufficient to understand the causes. Traditional attitudes to education have played an important role in the development of higher education. The understanding of the employment problems of graduates must concern these aspects as well as economics.

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find good jobs. The former has been discussed by Jencks et al in Inequity and used as evidence that education has not much influence on earnings. Earnings are more related to social class than education. The latter is also associated with innate ability and social background. With this regard, it is also difficult to say that education has positive relationship with earnings. This is the reason why I did not describe the second mechanism here. However, the other two mechanisms are still convincing.

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CHAPTER 4 THE ANALYSIS OF GRADUATE EMPLOYMENT PROBLEMS II - CONFLICTING VALUES OF HIGHER EDUCATION: CULTURE AND KNOWLEDGE TRADITIONS

Chapter 3 described the theories used to justify the expansion of education in terms of its economic function. Among them, "human capital" theory particularly stressed the economic potential of higher education. It led to serious argument about whether higher education in general and university education in particular can be organised to meet the needs of economy or whether it should have its own objectives. However, the usefulness of these economic theories has been challenged by the employment problems of graduates in economies in recession and when the absorptive ability of the labour market becomes weak. Furthermore, they could not explain why higher education policies did not follow manpower forecasting to enrol appropriate numbers of students and why a vocationally relevant curriculum was not fully adopted by university authorities, and why parents and students still desire higher education when the employment market for graduates has declined.

Each of these questions can produce different answers from administrative, academic or psychological points of view. Behind these answers lies the central point that economic concerns alone are not enough to explain the rise of graduate employment problems. In consequence, a further and deeper investigation of these problems should go beyond pure economic considerations to examine the conflicts between economic function on the one hand and the cultural values of higher education on the other. The assumption is that such conflicts will present in the attitudes of policy-makers, university teachers, students and the public in making

decisions about higher education. These attitudes may be obstacles to resolving the employment problems of graduates.

From three standpoints the conflicting ideas of university and their relation to graduates employment will be investigated. First, conventional ideas of higher education will need to be modified in response to changes in society. Secondly, traditional ideas of higher education, particularly of the university, have been preserved by those who approve of liberal education and have been opposed by those favour a practical or vocation-oriented education. Thirdly, clarification of the conflicting ideas of the contemporary university and understanding the practical operations of government, university authorities and other relevant organisations, in terms of these conflicting ideas are essential to resolving employment problems of graduates.

The literature on the conflict between the economic and traditional functions of higher education in Taiwan (Republic of China) seems insufficient to explain the complex issues. A comparison with Britain and with the U.S.A. may help to illuminate these conflicts further.

Though this conflict has been found in both the U.S.A. and England, there has been a stronger support for an economic function of higher education in the U.S.A.. While American influence on Taiwan suggests that examination of the American approach may be the most fruitful, the strength of traditionalism in Taiwan also makes the British example relevant.

4.1 The Needs to Change or Modify the Ideas of Higher Education

The expansion of higher education after the end of the Second World War brought challenges to the conventional ideal of university education. First, the process of economic reconstruction and social progress that took place in most countries after the War led to doubts about the importance of the values of traditional liberal education. Secondly, whereas previously universities had enrolled students from mostly middle and upper class backgrounds, the great expansion in enrolment and the wider range of students' social origins meant that it was less likely that students would share these values(1). Thirdly, as Flexner's research university became Kerr's "multiversity"(2), the academic profession expanded rapidly and it became harder to ensure that faculty members were properly socialised into traditional academic norms and values(3) or to expect them to appreciate the merits of the traditional university. These factors made it difficult for the traditional liberal values of the university to survive in modern society.

In accordance with these global trends in higher education, the idea of university in Taiwan also need to change to meet the new situation. A model which was developed by T.T.Yu may be helpful in analysing the influences on the ideas of higher education.

In discussing the transformation of Taiwan's society in the last thirty years, T.T.Yu provides a model for conceiving Taiwan's culture. Yu described Taiwan as being in a process of "dependent development" which involved Taiwanese culture having the following characteristics:

(a) owing to its location between the developing and the developed world, Taiwan is torn between depending on the superpowers (industrialised countries) and opposing their imperialism;

(b) the contradictions and conflicts between Oriental and Western culture lead to serious arguments about the preservation or abandonment of tradition;

(c) owing to the conflicts between agricultural and industrial civilisation, acute arguments occur about whether the cultural priorities should be Chinese or Western (4).

Conflicting ideas of Taiwan's university can be understood in terms of the conflicts between preserving and abandoning tradition and between Chinese and Western (mainly American) values. Those who approve of traditional liberal education have been influenced by Confucian ideas of education, which lasted for more than two thousand years in China. Because of Chinese conservatism and reluctance to change, those ideas are still widely held in Taiwan. But those who demand that a new look should be taken at the role of higher education argue that higher education should have the purpose of promoting economic growth and national strength. Such economic ideas of education were proposed in the early twentieth century after China had suffered foreign invasions. They were further reinforced when the Republic of China transferred to Taiwan. The need to survive and American influence led to an emphasis on the economic function of higher education.

Against this background, two models will be used to analyse the conflicting ideas of Taiwan's higher education - the traditional model and the economic function model. In understanding the traditional ideas of higher education and

how they react to the new trends towards vocationalised or specialised higher education, Newman's ideas of liberal education and the reactions to vocationalised higher education in Britain may illuminate the problems of Confucian based educational values in contemporary Taiwan.

4.2 Traditional Ideas of Higher Learning - Education and Confucianism

Chinese culture has been profoundly influenced by Confucianism. Although Mohism and Taoism had a great impact on ancient Chinese civilisation, they lost significance when, in the Han period (202 BC - AD 220), Emperor Wu, pronounced the official adoption of Confucianism. Confucianism dominated education as well as other aspects of culture in ancient China until the end of Ching Dynasty (1644-1911).

Aims of Education - Gentleman Education

There are various views of the aim of Confucian education. T.C.Kung thought that "Confucius' philosophy of life concentrates on benevolence of humanity. To practise benevolence is..., the ultimate goal of education(5)." In order to practise benevolence, Confucius asserted that one has to be able to first "not to impose on others what oneself does not desire to do" (Analects, BK12). Then one has to move ahead and "establish and promote others as one desires to establish and promote oneself" (Analects, BK6). Kung further claimed that Confucius' idea of education in the Doctrine of the Mean was that "the cultivation of Ways is to be done through humanities." (chapter 20) and "the cultivation of the Ways is called education(6)." Therefore,

to practise benevolence towards humanity is the ultimate goal of Confucian education.

For C.C.Kuo and M.A.Hsiung, the aim of Confucian education is to cultivate a "gentleman". A gentleman should be different from laymen in terms of his moral virtue and ability. In Analects, Confucius mentioned the virtue of a gentleman more than ninety times(7), and emphasised such virtues as considerateness, love, filial piety, tolerance, trustworthiness, diligence and generosity(8). In general, Confucius' ideal for a gentleman is to discipline himself first, then to serve his family, his nation and his people.

Classics is the Requirement for Gentleman Education

The content of Confucian education and the materials used in instruction concentrated on aspects of morality and on particular aspects of knowledge. Confucius demanded that his disciples should study ancient arts and classics. This included the study of the six arts - rites, music, archery, charioteering, classics and mathematics. The six classics - the Book of Changes, the Book of History, the Book of Odes, the Book of Rites, the Book of Music and the Spring and Autumn Annals were important textbooks.

Confucius' thinking and philosophy are conservative and classical. In his time, society was in a state of turbulence and unrest, which made him believe that to return to ancient ways could be the means to restore the order of society. Classical textbooks would be the best guides for students to learn the virtues which existed in previous times and the knowledge inside those books would help to increase wisdom and resolve the political turmoil.

Relationship between Education and Society

In general the central doctrine of Confucianism was to cultivate "gentlemen" to serve the country and to restore and maintain the order of society. Confucius thought that the perfect political system consisted in the rule of the country by "gentlemen" endowed with virtues. Therefore the cultivation of virtues came before the acquisition of knowledge as the important task of education. Mencius and Hsuntzu, the two great disciples of Confucius, held opposing views of human nature: Mencius thought human nature was basically good whereas Hsuntzu thought it basically bad. However, both of them saw the purpose of education in moral terms, either the development goodness or the prevention of vicious behaviour. Their ultimate goal was to have a sagacious and educated emperor. R.Wilkinson indicated that in China, "the dependence of responsible government was on human character rather than on institutions, on ethical codes rather than on formal law." (9)

From these assertions by Confucius and his disciples, it is clear that education is subordinate to political needs. Because a wise polity is the ideal political system for Confucius, educational purpose and content were designed to achieve this ideal. It is basically an elite education, expecting through education to find the ablest and virtuous persons to run the country as long as they passed imperial examinations.

An imperial examination system was initiated during Sui dynasty (A.D.581-617) and revised and perfected under Tang dynasty (A.D.618-959). It was a system of social control and a channel for social mobility. Through the system of social selection, the most talented in the country were

recruited for the service of the state. Under this system, the talented were preoccupied with prescribed classical and literary texts in their endeavour to win social and political privileges distracting them from engagement with subversive ideas and activities. It was also a merit reward system of social mobility. Any person, no matter his origins and background, was allowed the equal opportunity to win high social and political status by passing the examinations. This led to an ideology which influenced the Chinese for thousands years, that knowledge acquisition is for passing examinations, and passing examination is to become a governmental official. Governmental officials had the highest social status in ancient China, superior to the other occupational categories, such as farmer, craftsman and merchant. Therefore, knowledge of books in the Chinese conception was equal to possessing money, good house and social status. This conception and a similar examination procedure still exist in Taiwan, and still have great influence on the people as a whole and on some policy-makers.

The Neglect of Practical Knowledge and Skills

As emperors were under the influence of Confucianism, the classics of Confucianism became main subjects in the examinations. Some fashionable forms of literature, such as poetry were also tested. J.H.Dorn wrote that these examinations emphasised "ethical ideas and flowery literary expression, and neglected a scientific or critical point of view." (10) When a person became an official through passing examinations and was designated to deal with affairs in a province or a county, he found the knowledge he had acquired was little relevance to his job. As a result, in every province or county, a "Shih-Yeh", an assistant, familiar

with local affairs was needed. C.T.Yu argued that because Confucius valued virtue and knowledge, a gentleman should be cultivated with virtue and rich in knowledge. Other crafts and those jobs involving labour were unsuitable for a gentleman. This is the reason why in Chinese society jobs can be broadly divided into two categories, for those who "use their mind", and for those "use their labour". Certainly, the latter were looked down on by the former and were undertaken by the lower class. This conception implied that the status of these skills and crafts could not be improved, and modern productive skills developed only slowly(11).

Gentleman education, classical literature, virtue cultivation and the combination of education and social selection together are the characteristics of Confucian education. These characteristics coexist with an ancient political system, economic situation and cultural development. When the political system is not a monarchy, when the agrarian economy has been replaced through industrial development, and when there is a cultural propensity towards utilitarian values as in contemporary Taiwan, these traditional educational characteristics face challenges. How do traditional ideas of higher education (or higher learning) survive? How do they influence the practice of higher education in an industrial society which differs from the society in which they originated? And in what ways do they influence the employment of graduates?

4.3 Liberal Education in Britain and Ancient China - Points of Comparison

Before exploring these questions in Taiwan, the challenges to the traditional ideas of higher education in Britain may be investigated. There seem to be parallels and a comparison may illuminate the problems in Taiwan. The comparison will concentrate on the traditionalism of Britain (especially England) and Taiwan. What are the similarities between educational ideas in both countries with respect to preserving traditional culture? How do these ideas influence the practice of higher education? What challenges do they face from those endorse an economic function for higher education and how do they influence the employment of graduates and employers' attitudes in recruiting graduates? These questions will be discussed in the following section.

Comparing the sixteenth century Britain's Public Schools and Confucianism education, Wilkinson indicated there are several similarities in these two systems. First, Wilkinson thought both educational systems were concerned with gentleman education. In terms of classical culture and the acquisition of past wisdom, a division of social classes was built between gentlemen and other social groups. Secondly, a leisure culture was emphasised in gentleman education. In Britain, leisure meant a gentleman did not have to work exclusively or obviously for a living. Instead he would have more time to pursuing culture. In China, leisure operated as an attitude of mind, a gentleman aimed at gracefulness, formal dignity and etiquette. Thirdly, in both cultures, a gentleman was taught to rise above specialisation. According to R. Wilkinson

"the gentleman was taught to consider himself above specialisation, whether in the sense of

regional style or that of technical know how. Both of the latter were reserved for his social inferiors, since specialisation in any form was deemed narrowing. With regard to technical specialisation, furthermore, such expertise was the mark of one who had to use knowledge to earn a living and not for the leisure pursuit of wisdom and beauty." (12)

Fourthly, Wilkinson argued, in terms of civil service examinations (especially in China), a two-way relationship between government and the political elite was built up.

"On the one hand, it aided government recruitment by making public service a gentlemanly obligation. On the other hand, it defended the identity, the political power and the social prestige of an elite group by inspiring that group to retain their grip on public affairs." (13)

Although Wilkinson limited his comparison in Public Schools only in England, the gentleman ideal is also appropriate to the understanding of higher education in Britain at that time. Newman's idea of a liberal education typifies such concepts of higher education in Britain since the nineteenth century.

4.4 Liberal Education - Newman's Idea of University

The Aim of Higher Education (University)

Newman described his ideal university as a place for teaching "universal knowledge". He thought liberal education, philosophy and knowledge were "capable of being their own ends(14)." Newman's liberal university

"aims at raising the intellectual tone of society, at cultivating the public mind, at purifying the national tastes, at supplying the principles to popular enthusiasm and fixed aims to popular aspirations, at giving enlargement and sobriety to the ideas of the age, at facilitating the exercise of political powers, and refining the intercourse of private life." (15)

Newman's objects of a university included making a gentleman. He said

"It is well to be a gentleman, it is well to have a cultivated intellect, a delicate taste, a candid, equitable, dispassionate mind, a noble and courteous bearing in the conduct of life; these are the connatural qualities of a large knowledge; they are the objects of a university." (16)

The Neglect of Practical and Useful Knowledge

Newman opposed "useful knowledge" and considered it as "a deal of trash" (17). He thought there are two approaches to education, one is leading the mind to be philosophical, the other to mechanical skills. The former rises towards general ideas, the latter one is exhausted by that which is particular and external. He did not deny the necessity of particular and practical ideas, but he said "knowledge, in proportion as it tends more and more to be particular, ceases to be knowledge." (18)

Even though Newman's ideas of education have similarities to Confucius', they also have differences. The most important difference is that knowledge in Confucian view has an utilitarian aim, since through acquiring it, a person can be qualified as an official and awarded social prestige. Knowledge is never an end purely for its own sake as Newman believed. However, a similar concept of gentleman education, paying attention to virtue and classical literature, has influenced both societies. Thus Taiwan (the Republic of China) and Britain's education face similar challenges. When previously static agrarian societies transformed into industrial economies, the division of labour became more necessary and professional and skilled manpower became an economic need. Those who still hold traditional ideas of liberal higher education are challenged

by those who emphasise the economic function of higher education.

4.5 The Challenges of Traditional Ideas of Higher Education (University) : British Case

Traditional educational ideas and the liberal arts oriented university they entailed prevailed between the mid-19th century and the mid-20th century(19). P.Scott pointed out three main roles of liberal universities.

"First was the custodianship of an intellectual tradition derived more from the culture of a social elite than the codification of scientific principles by a crops of academic experts." Second was "the reproduction of the traditional professions which were defined more perhaps by customary than technological requirement..." Third was "the transmission of cultural capital in its broadest and possibly most allegorical sense by the formation and, more important, the legitimization of political and administrative elites." (20)

These three roles of university are not so important in an industrialised society. The reason could be, first, that the social elites in an industrial society are not the same as those found in the earlier traditional societies. In modern society "scientific-educational elites"(21) or "technical elites"(22) are more important. It follows that the culture of the elites in society will be different. Secondly, as new technological and professional occupations were created by industrialisation, such as chemistry, electronic engineering, the simple reproduction of the traditional professions (law, medicine etc.) will not satisfy the new needs of the economy. Thirdly, when the number of university students increased, the function of liberal university of creating legitimated political and

administrative elites seems to be not so successfully performed as before. Halsey indicated that

"..the function of universities as nurseries for elite groups is overlaid by other new function as a mass higher education service in an emergent technological society(23)."

The traditional roles of university are no longer suited to modern society. There has been strong debates in Britain about the need to preserve the traditional liberal values of the university. These have raised numerous fundamental issues, for instance, the questions of who has right to receive university education, what form university education should take, what compromise should be made between specialism and generalism, between liberal and vocational education, and between the teaching and the research functions of the university(24).

F.S.L.Lyons in The Ideas of a University: Newman to Robbins discussed these issues. J.S.Mill and M.Arnold were in favour of liberal education. They thought specialist studies, professional or scientific education should be followed after liberal studies or be balanced by them. Lord Rutherford opposed the use of universities for industrial research. B.Truscot reclaimed Newman's idea to "search after knowledge for its own intrinsic value." (25) All of them inclined to traditional values of higher education.

Although M.Pattison recognised that there was a conflict between generalism and specialism, he insisted that special studies did not necessary consist in vocational training. He asserted the purpose of a university was to cultivate the mind and form the intelligence and advocated specialist in depth study as the best method of achieving this. Lyons

thought that albeit T.H.Huxley took issue with Arnold and insisted natural science should be included in university curriculum, nevertheless Huxley's idea of university was still close to Newman's. Huxley proclaimed that university should be a place where "all sources of knowledge and all aids of learning should be accessible to all comers...(26)."

The traditional ideas of liberal education impeded the adjustment of the British universities to the process of industrialisation. A.H.Halsey indicated that

"the British case is instructive as one in which the medieval and aristocratic traditions of the universities have hitherto acted as a powerful brake against movement towards the technological society(27)."

As time has passed and as economic competition between industrialised countries became increasingly acute, the traditional values of liberal education in Britain have been blamed for Britain's relative economic decline. M.J.Weiner in English Culture and the Decline of the Industrial Spirit 1850-1980 pointed out that

"the uncertain position of industry stands out from the history of education in Britain. Elite educational institutions from the Victorian era on..., reflected and propagated an anti-industrial bias."

He further stated that

"technological education made slow headway. Manufacturers aspiring to the status of full-fledged gentlemen recognised that engineering was not a suitable career for such a goal(28)."

C.Ball warned that the U.K. is facing a national crisis as a result of anti-industrial attitudes. He argued that a triple alliance between the world of employment, government and education would be needed to resolve it but asserted that, before there could be such an alliance, the priority given to "the high culture of mind", at the expense of

emphasising the value of creation of wealth would have to be reversed(29).

S. Maclure had the similar criticism, he indicated that "if the shortcomings of Britain industry, its low productivity, poor standards of training and the shortage of educated manpower at every level are to be blamed on a set of cultural values that reluctance to make earning a good living a high priority, then the implications are likely to be extended to every aspect of educational policy..(30)."

Thus these critics saw the traditional liberal educational ideas as impeding Britain's economic and industrial development.

However, it does not follow from this that higher education institutions should be turned into "staff colleges" for technical specialists(31). L. Playfair's opinions on the necessary evolution of the university, mentioned by Lyons are worthy of attention. In the course of warning about "adapt or perish", he said,

"universities should understand that if they desire society to uphold their ancient rights, they must show themselves willing to extend modern obligations to society(32)."

Playfair's warning perhaps exaggerated the crisis of the British universities. As some examples proved the university could still survive without much connection with the society in which it existed: for example, Paris University during the French Revolution and Oxford and Cambridge Universities through the English Industrial Revolution. Nevertheless, the requirement that the university responds the needs of society seems generally inescapable, especially, when the economic function of higher education is emphasised.

A. Flexner perceived conflicting ideas about the relationship between university and society. One view asserted that universities always tend to lag behind changes in society. The opposite view is optimistic, claiming that "universities are up to date or even ahead of times." (33) Flexner's resolution of this opposition of views was to argue that

"despite the continuity of university ideas, the actual institution itself stands in the midst of social change and thus must submit to considerable changes. In this connection it is important that the university takes part in shaping this process in a critical manner and does not allow itself merely to be driven about here and there.. (34)."

C. Kerr also thought that a university (or multiversity) should be consistent with society, sometimes even serve society slavishly, but it also can criticise unmercifully the society in which it exists (35).

In Britain, the idea of liberal education had given way to a compromise as a result of the tension between humanities and science, between liberal and specialised curriculum and between economic and cultural function of education. Lyons described Sir W. Moberly's sense of the crisis:

"post-war expansion (of higher education) was socially unbalanced, its size and speed put an immediate strain upon the universities resulting sometimes in an almost panic-stricken loss of any clear sense of identity. (36)"

In order to rebuild the identity of higher education, Moberly emerged as a humanist trying to come to terms with technology (37). But he did not succeed, "as he failed to reconcile the irreconcilable, he had no advice to offer about how the universities should relate to a society seriously transformed by technology (38)."

Sir E. Ashby tried to play the same role as a mediator, he thought

"it would be for the humanities to make the necessary adjustment.(39)" "In order to adapt itself to an age of technological specialisation, the university must use specialised studies as a vehicle for a liberal education(40)."

These ideas seem easy to accept, because they appear to resolve the conceptual differences and satisfy the demands of all parties. However, they are difficult to achieve in practice.

In order to rectify the imbalance between liberal and specialised education, between economic and cultural function of education, Lord Robbins adopted the strategy changing the idea of "preparing for a man"(41) to preparing for employment. The first priority among the four aims of higher education of Robbins Report was "instruction in skills suitable to play a part in the general division of labour(42)." He said,

"we put this first, not because we regard it as the most important, but because we think that it is sometimes ignored or undervalued(43)."

The influence of Robbins Report on higher education was far reaching, not only on the structure and system of higher education, but also on its ideologies. Seventeen years after the Report was published, Robbins himself reemphasised the ideas. He claimed that the expectations of universities should be at least two fold: providing training and fostering the preservation and advancement of knowledge(44).

With respect to Newman's idea, he argued,

"I am not out of sympathy with the value which Newman attaches to knowledge as such - quite the contrary so far I am personally concerned. But I find entirely unwordly and unhistorical the idea of university devoted such ends, regardless of training for subsequent careers or the utility which comes from knowledge(45)."

Although the first priority was to instruct the necessary skills for employment, the other three aims of higher education were not ignored in the Robbins Report. They are the promotion of general powers of mind; the advancement of learning and the transmission of common culture and citizenship(46). However, since the beginning of the 1980s, public funds to higher education have been cut by government, to whom the question of the utilitarian value of higher education has become of primary importance. The Green Paper of 1985 showed that the government's concern was to improve the economic performance of the United Kingdom through the contribution of higher education. It urged that higher education institutions should make contact with the outside world, particularly with industry and commerce. In addition, higher education should beware of "anti-business" snobbery(47). The White Paper of 1987, Higher Education: Meeting the Challenges (April, 1987), further claimed that "there is an urgent need, in the interests of nation as a whole and therefore of universities, polytechnics and colleges themselves for higher education to take interesting account of the economic requirements of the country. This aim must be vigorously pursued(48)."

The Green Paper and the White Paper incurred much criticism, in particular on the ground that they appeared to see university education solely in terms of utilitarian purpose(49) and "creation of wealth"(50).

It is not difficult to understand why the government evaluates higher education in utilitarian terms. The Green paper stated:

"unless the country's economic performance improves, we shall be ever less able than now to afford many of the things that we value most - including education for pleasure and general culture and the financing of scholarship and research as an end in itself(51)."

It seems that there are stages of development of higher education, from the government's point of view. Priority is given to "education for use". "Education for delight" (52) or education for culture can be attended to later. The dilemma of the choice of priorities was articulated by P.G.Altbach:

"the process of implementation (of university reform) often causes the great problems: keeps change with the parameters of the traditional roles of universities but public authorities may exert pressure to solve social or technological problems quickly, often without regard for the broader functions and traditions of higher education(53)."

The government did not intend to reconcile the conflicting values but rather to overthrow the traditional ideas of the university. B.Truscot, D.Watt and W.H.Halls (54) did try to reconcile liberal and specialised education but their solutions appeared implausible and we are perhaps still a long way from achieving a balance between "education for its own sake" (55) and education for employment. It is significant to note here the idea raised by Halsey that: "in this new technological society, educational institutions are expanded not only to exercise research functions but also to play a central role in the economy and the system of stratification as agencies for selection, training and occupational placement of individuals(56)."

The traditional "anti-industry" and "anti-business" spirit of British universities were thought to impede their service of society. In order to meet increasing needs of the economy and industry, parallel institutions to universities - polytechnics were set up to complete this mission. The polytechnics are utility oriented and their predominant interest is entrepreneurial rather than scholarship. This is an ideal to balance liberal and utilitarian values and to

make higher education pursue its own academic objectives and serve society simultaneously. However, the liberal tradition remained strong. Polytechnics were not satisfied to offer practical subjects only. One London polytechnic was reported to have more staff teaching philosophy than Oxford(57). The pressure for universities to achieve a balance between liberal and economic functions have not been decreasing.

Similar ideals and practice were found in Taiwan's higher education institutions. Junior colleges play the same role as the polytechnics in Britain, with a utilitarian function. But they do not enjoy the same prestige as traditional universities. Their graduates were thought by employers and the public to be less qualified than those of universities. This is one reason they have difficulties in employment.

Traditional liberal ideas of education seem more appreciated by employers in Britain than in Taiwan. In R.Pearson's classification on recruitment streams, the requirements of employers on graduates in Britain can be seen as the follows.

- (1) The management trainees who are selected primarily on personal characteristics, are seen as high fliers with potential for senior management.
- (2) The specialists who are recruited for work within specialist function of the organisation such as accountancy, engineering and personnel.
- (3) The general intake who are recruited as potential junior and middle management. It is to the managerial trainees that the firms direct most attention, selection based more on personal factors, an area in which science-based graduates are thought to be sometimes less proficient, than on academic criteria. (58)

It can be seen that the personal characteristics are no less important than specific practical knowledge and skills in the British graduate labour market. The personal qualities such as motivation, communicative skills, ability to work in groups, and numeracy and literacy are not necessarily associated with vocation-orientated departments. Departments of arts, humanities and social studies perhaps can cultivate more graduates with such ability than specialised departments.

In Taiwan, employers are not appreciate the general ability of graduates as much as their equivalents in Britain. Specialised knowledge, vocational skills and work experience are more emphasised in Taiwan's graduate labour market. (more discussion on employers' attitudes in Taiwan will be in chapter 7). The reasons could be twofold. First, traditional Confucian ideas do not have much influence on those engaged in business and industry. As a result, the values and function of liberal curriculum have not been accepted by most employers. Secondly, government's emphasis on economic function of higher education has led employers in public and private industry /business /corporations to have narrow utilitarian views on higher education. Therefore compared with British graduates in arts, humanities and social studies, Taiwan's graduates with same disciplines expect more difficulties in the employment market.

4.6 Economic Function of Higher Education in the U.S.A.

The utilitarian view of higher education adopted by government of the Republic of China (Taiwan) and which influenced employers could have two sources. One is that

since 1949, when the government moved to the island, economic survival became the main concern. The second is American influence. In order to understand more about the conflicting traditional and economic values of Taiwan's higher education, the development of ideas of American higher education must also be considered.

In the United States of America, the conflict between the ideas of liberal (or general) and specialised (or vocational) education in universities seems to have been less acute than in Great Britain. Newman's liberal and teaching university had been overshadowed by Wilhelm von Humboldt's concept of a research university in the 19th century. In addition American higher education in its early stage of development started to establish contact with the community (or society). E.C.Wallenfeldt pointed out that
"German practices were apparent in the development of state universities in the era of land-grant legislation. Emphasis was on the application of knowledge to the problem of society(59)."

Altbach also indicated that the emergent needs of the economy which motivated the United States to adopt the German model:

"the need to train skilled manpower quickly for a rapidly expanding industrial and bureaucratic system;..., and the need to translate rapidly advancing technology into terms that would be useful for development(60)."

Thus, when the Morrill Act was passed in 1862, the community colleges were set up and were to teach agriculture and mechanic arts in order to meet community needs.

According to Kerr, the University of Pennsylvania and the College of Philadelphia approved of "a more useful culture of young mind", following Locke's advocacy of training people for agriculture and commerce and in exploring

science(61). C.W.Eliot developed an elective system, which allowed students to choose freely their combinations of subjects thus facilitating the study of practical subjects. Eliot believed that "the university must accommodate itself promptly to significant changes in the character of people for whom it exists." (62) implying that the university should serve society. A.N.Whitehead argued for a kind of useful education, though not identical with "vocational education". He did not think professional or technical university studies, such as business administration or medicine were inappropriate, because they were consistent with the mission of the university - "to weld together imagination and experience." (63) In discussing the university curriculum, Whitehead proposed that all students should receive both general and specialised education. He thought that, "the general culture is designated to foster an activity of mind; the specialist course utilises this activity(64)."

John Dewey, according to Levine, also thought that the split between liberal education (education for pleasure) and utilitarian education (education for work) were "conditions inappropriate for education, which seeks to reconstruct experience at large rather than segment and compartmentalise it(65)."

The emphasis on useful education(66) resulted in American higher education developing in a way that responded to the demand for technological manpower in the early stage of industrialisation. Business as well as science and engineering increased their influence over the content of higher education with the decline of the fundamental disciplines and the rise of applied subjects in the 1960s(67). D.Fallon indicated that perhaps the utilitarian purpose of American university was inevitable, because the universities are places "where the value of public service,

social responsibility and economic development was fostered early as necessities for survival in the new world(68).” Following the change in the idea of the university, Kerr used the term “multiversity” instead of “university” to emphasise its multiple functions in the modern society.

Kerr believed that the mission of a university is to preserve the eternal truth, to create new knowledge, to improve service “wherever truth and knowledge of higher order may serve the needs of man(69).” Although Kerr agreed that university should serve society, but he also asked the university to criticise society. He thought university should be an avenue not only for preparing generalists but also specialists. Kerr's contribution was not the design of a new model for the university, but the description of what the university was already. From the developmental point of view, the university can not survive on the basis of only one function (eg. teaching), or one kind of curriculum (eg. liberal arts). Comprehensive functions and multiple roles are necessary for a modern university.

E.A.Lynton and E.Elman strongly approved of the utilitarian and instrumental conception of higher education. They held that universities are social institutions with responsibility to create advanced knowledge and to interpret and disseminate it. Thus, when the valuation of knowledge in society changes, university should respond to it accordingly. They suggested American universities should focus on career preparation, but not necessarily confined to solely technical skills(70). Basically, this ideology was shared by many scholars and educators. That is why general and cultural education have been claimed to be in balance

with practical education throughout the development of American higher education.

However not all influential American critics supported this utilitarian view of higher education. T.B.Veblen, A.Flexner and R.M.Hutchins, were against the utilitarian objectives of university education. Veblen asserted that "vocational training is training for proficiency in some gainful occupation, and it has also no connection with higher learning." In his ideal, an institution of undergraduate education should be "a school of probation and introduction to the scholarly life." (71) Flexner thought the four concerns of scholars and scientists in university should be

"the conservation of knowledge and ideas; the interpretation of knowledge and ideas; the search for truth; the training of students who will practise and 'carry on'."

He was against university as "service station" of society. He insisted that "universities must at times give society, not what society wants, but what it needs (72).

Hutchins wanted to preserve Newman's ideal. He claimed that the common aim of a university should be "the pursuit of truth for its own sake." (73) There were three subjects in Hutchins' ideal university: metaphysics, social sciences and natural sciences. Every student was expected to study the three subjects no matter his future occupation.

Hutchins asserted

"the student would study them without any vocational aim; that is, the subject matter would be the same for those who were planning to enter a learned profession and those who were not (74)."

As for acquiring skills to follow certain professions, such as medicine, law and teaching, Hutchins' suggestion is similar to Veblen's: institutes should be attached to the

university for instructing students in these skills after they finished "higher learning" (75).

Hutchins claimed that there were three reasons which made American universities attempt to serve society and made the university curriculum empirical and experimental - the love of money, a misconception of democracy and a misunderstanding of the notion of progress. The first two reasons in particular made the university highly responsive to public demands and opinions. Thus, the university had no choice but to become a service station. The third reason was founded on the mistaken idea that progress was achieved by "the accumulation of data, the more information, the more discoveries and the more inventions, therefore, it made social sciences and humanities subjects, such as philosophy, theology also become empirical, experimental and progressive" (76). Hutchins did highlight the oversensitivity of the American university to social needs. But, although the antithesis of Newman's idea might be bound to fail, neither could there be a complete to return to Newman's conception. Kerr commented that Hutchins "succeeded in reviving the philosophic dialogue he loved so well and practised so expertly, but Chicago University (of which Hutchins was president) went on being a modern American university" (77).

The arguments between liberal and specialised education, between the cultural and the economic functions of higher education seem unlikely to be resolved in the foreseeable future. However, the utilitarian values of higher education seem more acceptable to students, which was seen in their tendency to choose "marketable" subjects when the labour

market of graduates declined. This has been referred to in chapter 2.

The emphasis of the economic function of American higher education had a great influence on Taiwan, especially on the governmental educational decision-makers. A number of higher education institutions (particularly junior colleges) were established in response to the demand of industry and the economy. New departments such as information technology, nuclear engineering and biological engineering were set up to accommodate the needs of industrial development. More students were enrolled to technological and scientific departments since the 1970s and were not seen to be decreasing in the 1980s. University curriculum was also required by government and expected by employers to refer to the content of jobs which students would undertake after graduation. From government's point of view, if graduates could apply what they learned in universities immediately after graduation, the investment in higher education would be worthwhile, and the worry about graduate unemployment and underemployment would be less. With respect to employers, the expenditure on on-the-job training would be saved. (more discussion on government's policies on the usage of qualified manpower and employers' attitudes to recruiting graduates see chapters 5 and 7).

Even though the economic view of American higher education has influence on Taiwan, it does not necessary mean that the traditional ideas of education have declined. Traditionalism still has its forces fighting with utilitarian views of higher education, and it made the development of higher education in Taiwan somewhat different from the U.S.A., which was the ostensible model.

In the United States, higher education institutions are more accessible to those who desire to enter and the majority have less prestige than those in Taiwan. Students are free to choose subjects in which they are interested with less concern for the expectations of parents and the honour of intelligentsia. These latter concerns encourage Taiwan's students to follow disciplines in which they have little interest and later to find jobs have no relationship to their studies. This may explain why for American graduates, the relationship between field-study and work seems more important than in Taiwan (refer Table 2-8, and 2-14, 2-15, these figures are not comparable, but can be used as a broad reference). In addition to these differences, when the labour market declined, students in America would choose entering the labour market after leaving high school instead of engaging in further study. It made the difficulties of graduate employment less serious. In Taiwan, the fixing of the number of enrolment by government and the keen desire of students to enter universities made such an adjustment more difficult. The former was influenced by the economic planning imperatives of government and the latter by traditional educational ideas.

4.7 The Ideas of University in Taiwan (the Republic of China) - the Conflict between Economic and Traditional Cultural Values

The conflict between ideas of university in Taiwan is similar to that in Britain. Both cases have a highly valued cultural heritage and share an attempt to preserve the gentleman class through the liberal curriculum. On the other hand, both are eager to foster economic growth by means of using higher education to train appropriate

specialists. However, Taiwan's higher education also has been much influenced by American ideologies, which emphasise the economic implications of higher education. This caused a particular tension between traditional gentleman education and modern practical education. The origins of these opposing ideas need to be traced for the conflict to be understood.

Education in ancient China was a ladder for people to climb to high social status. The link between moral gentlemen education and entry to the examination - based historically on the Imperial bureaucracy in China has created a particularly credentialist view of liberal education in modern Taiwan, which is not found to the same degree in Britain or the U.S.A..

The selective function of ancient Chinese education gives a particular kind of utilitarian purpose to education which needs to be separated from its moral function. Moreover, in Taiwan, as a result of broad acceptance of the idea that education is to contribute to national economic growth and individual higher earnings, this utilitarian view of education has been even more accentuated.

Although the motives for pursuing knowledge could be quite utilitarian in practice in traditional Chinese education, knowledge was not necessarily relevant to practical skills, nor applicable to jobs or daily life. The utilitarian motives in pursuing knowledge came from Confucianism. Dr. Sun Yat-Sen adopted this view but substituted for the aim of "serving the emperor", the purpose of saving and building China - at that time suffering external invasion and internal strife - through the Three Principles -

national self-determination, democracy and the well-being of the people's livelihood(78). This ideology can not be criticised for putting the nation's survival and prosperity first. However, it did reinforce a utilitarian tendency of education.

However, for Dr.Sun, the purpose of education was not simply to equip a "gentleman" with virtue but to inculcate practical knowledge to be used in the service of the country. Technical and vocational education was believed essential by Dr.Sun to realise the Three Principles of People. The objectives of the Three Principles education can be seen in the following statement.

"The Three Principles must be coordinated with, or made an integral part of the whole body of teaching in schools of every grade. This refers not only to the work done in class but also to all other activities of school life. Thus the *min-tsu* or 'racial independence' doctrine must be taught along with history and geography and brought into relation with actual experience; the *min-chuan* or 'popular rights' doctrine must be linked with the agricultural and industrial pursuits of the people; the *min-sheng* or 'people's life' doctrine must be given an ethical foundation and associated with wisdom and morals. All the activities of life must be carried on with vigour and sincerity in accordance with Three Principles." (79)

Yuan Pei Tsai, a leading educationalist in the early years of the Republic, also emphasised the practicability of educational content. He proposed five kinds of education: military-civilian education, political-economic education, moral education, world-perspective education and aesthetic education. He expected military-civilian education and political-economic education to end the problem of China's defencelessness and poverty(80).

In 1912 the Ministry of Education promulgated the University Decree and the Specialised School Decree based on Tsai's ideas. The aims of university were the instruction of advanced academics, the cultivation of intellectuals with intensive knowledge and the service of national needs. The aims of specialised schools were to impart advanced knowledge and to train professional or skilled manpower. Since then, university education in the Republic of China has tried to concentrate on advanced studies on the one hand and meeting the needs of the economy and society on the other. However, the role of higher education of the Republic of China has become more confused since it settled in Taiwan.

Two main strands can be found in Taiwan's cultural and educational ideology: one is a new emphasis on Confucianism, the other is the broad political aim of meeting national economic needs. Since the Republic of China came to Taiwan, the central government has promoted Confucianism in order to seek to preserve traditional Chinese culture. The outbreak of the Cultural Revolution on the mainland, in which Confucianism was under attack, further encouraged government in this direction. In 1967, the Committee of Cultural Restoration was set up following a proposal of Chiang Kai-Shek. Its central task was to preserve and develop traditional Chinese culture, especially Confucianism. However, owing to its overriding political implications, the cultural restoration programme could give only an impression of returning to the old culture. Moreover given the political and economic development that had taken place in Taiwan, it was not possible in reality to revive traditional Chinese culture as a whole even if it was possible to give the impression of doing so. Y.Y.Lee claimed that the lack

of thought about the meaning of culture meant that the cultural restoration could only lead Taiwan back to ancient China and would ignore Taiwan's development and industrialisation. In addition, the emphasis on ethical values ignored intellectual and aesthetic values, which in turn led to conflict between cultural development and social progress(81).

The reclamation of ancient Chinese culture, particularly Confucianism, made a traditional ideology of education popular in Taiwan. The ideology that considered education a ladder for social mobility which was increasingly emphasised in society as a whole. The purpose of the content of education was the cultivation of virtue and was not of direct relevance to the practical world. This view has been shared by many government officials, educators and the public.

The second strand in Taiwan's cultural and educational ideology contrasts with the first. It consists of the broad political aim of developing society in order to meet the country's needs. In the 1950s Taiwan went through difficult times both in terms of economic hardship and also of its political status. The result was that Taiwan acquired a heightened sense of self-reliance, its need to depend on its own strength for survival. As a result every aspect of society - culture, ideology, education, and even literature, music and the arts - were developed to meet the needs of both the polity and the economy. Hence education, particularly higher education, was developed in order to contribute to economic expansion. Modernisation and human capital theories were readily adopted in support of this policy of expanding primary and secondary education and

investment in higher education. The curriculum of higher education was required to be such as to meet the needs of the economy. Thus the liberal arts were thought less important.

This led to conflict. On the one hand the newly revived traditional Confucianism emphasised the cultivation of virtue and the provision of a ladder for individual social advancement. However on the other hand the higher education system was expected to make a major contribution to Taiwan's economic survival and development.

4.8 Application of Models in Analysing Taiwan's Higher Education

In terms of the conflicting ideas of higher education, I investigated how they actually existed in the real situation in Taiwan's higher education by questioning a number of university teachers and students. From the attitudes of university teachers towards preparing students for work, from the compulsory liberal curriculum laid down by the Ministry of Education, from the popularity of credentialism in Taiwan and from the pride of intelligentsia, the conflicting ideas will be explored.

The Attitudes of University Teachers Towards Higher Education

In the survey in 1988, I asked the opinions of 64 teachers (including heads of department, full professors and lecturers) about the relationship between higher education and graduates' employment. They were asked to react to a number of statements. Statement A expresses approval of specialised education (higher education is to instruct

specific knowledge and skills for work); statement B approves of liberal or general higher education; statement C and statement D express the view that no relationship exists between higher education and employment (see Table 4-1). Among 64 responses, 21 of them (32.8%) were in favour of specialised higher education in the sense used, 26 (40.6%) were in favour of liberal and general higher education. Their responses appeared unrelated to faculty membership. A professor in the faculty of medicine indicated that, even though he was teaching applied sciences and practical subjects, he did not agree that higher education should be restricted to teaching specific knowledge and skills. He said "although medicine and medical surgery can save the life of a human being, it can not release the suffering soul of a human being." The result shows the conflicting ideas of the role of higher education in Taiwan's universities.

The Requirement of Common Curriculum

As part of their university curricula, in addition to the specific curricula of individual departments, the Ministry of Education requires all university students, irrespective of department to follow certain compulsory courses, including the Three Principles of People (racial independence, popular rights and people's life), Chinese literature, Chinese modern history and English language and literature. These courses are thought to increase students' general knowledge and to create a balance between specialised and liberal education. The motive was worthy, but the idea that liberal education consists of instruction about specific subjects - e.g. Chinese history and literature - was a misunderstanding of the meaning of liberal education. Liberal education in a modern society is to be pursued not in terms of specific subjects but through

Table 4-1 The Attitudes of University Teachers towards Higher Education in Taiwan

| <u>Positive responses to statements</u> | | | | | |
|---|-------|-------|------|-------|-------------|
| Faculty | A | B | C | D | No response |
| Humanities | 4 | 3 | 1 | 4 | |
| Agriculture | 4 | 2 | 4 | 1 | |
| Social sciences | 3 | 5 | 1 | 3 | |
| Medical sciences | 3 | 2 | | 1 | |
| Commerce and management | 5 | 8 | | 1 | 2 |
| Natural sciences | 1 | 3 | | | 2 |
| Engineering | 1 | 3 | | 1 | |
| Total | 21 | 26 | 6 | 11 | 4 |
| Proportion to total response | 32.8% | 40.6% | 9.4% | 17.2% | |

* : Some teachers gave multiple choices and some teachers did not respond to all aspects of the question. Therefore the number of total response (68) is not equal to the number of teachers who sent back the questionnaires (64).

Statement A - After finishing the courses of higher education, students may acquire specific knowledge and skills which they are able to use directly in subsequent employment.

Statement B - Higher education does not teach specific occupational skills but rather provides students with a general intellectual background which enables them to learn quickly the specific skills required in the job which eventually they will find themselves.

Statement C - Higher education neither provides specific skills nor general intellectual training but rather is the final stage of a process of selection of young people with the basic intellectual attributes that are required in professional, administrative, scientific and technical jobs.

Statement D - There is no much link between higher education and graduates' employment. The purpose of higher education is the personal development of the individual student.

Notes: The four items are adopted from O.Fullon, A.Gordon and G.Williams(1982) Higher Education and Manpower Planning - A Comparative Study of Planned Market Economies, Geneva, ILO, PP.29-30.

the development of the capacities for examination, inquiry, resolution, interpretation and evaluation(82).

Moreover, the common curriculum required by the Ministry included courses that were political rather than liberal and those courses were taught from a narrow point of view, minimally contributing to students' general knowledge and abilities. In 1984, influenced by Harvard's practice of general education, the Ministry of Education decided to require students to study 4-6 credits from seven fields - literature and art, history and culture, society and philosophy, mathematics and logic, physical sciences, life sciences, and applied sciences and technology. The same motivation, the same misunderstanding, led only to the increase of the student's burden without compensating benefit.

Symbolic Value of Higher Education and Credentialism

The emphasis on symbolic value of higher education tends to confuse the role of higher education. C.C.Lin suggested that there are two values of education - symbolic and functional. The symbolic value of education lies in conferring status on the individual. On the other hand, the functional value of education lies in the preparation of the student for his future work and for him to make a contribution to society. Lin found that, although the functional value of higher education had been noted in Taiwan, it tended to be undermined by the ascription to higher education of symbolic value, for example, as an expression of a pride in ancestry. This led students to not think about their own interests, their future careers, before selecting their university subjects(83). This was one reason for the difficulty graduates faced in finding

suitable jobs. University students' job aspirations will be explored in chapter 7.

Credentialism is another factor which confuses the role of higher education. In Taiwan, universities and junior colleges are set different objectives. Universities are intended to carry out academic research and cultivate professionals; junior colleges are to promote the applied sciences and train technical personnel. There appears to be an attempt to balance research, cultural and economic functions through a binary system of higher education. However, the credentials given by universities are much more highly valued by employers than those of junior colleges. As a result junior colleges do not function well. Students will not go to junior colleges if they can pass the entrance examination for university. Once they have entered junior college many have a low self-respect, which is shared by the general public. For this reason, junior colleges failed to meet the needs of economy and increased the pressure for universities to meet these economic objectives.

Pride of the Gentleman Class

The pride of the gentleman class derived from Confucianism and stereotypical views of society also promote a contradiction about the role of higher education. The industrialisation of a society leads to a multiplication of social functions with the result that the gentleman class loses its superiority over other classes. However, the continuing pride of old intelligentsia leads to the preservation of old-fashioned university curricula and hinders an increase in cooperation between university and industry. This made it difficult for graduates to adjust themselves to work after graduation.

Two contradicting sets of ideas thus developed in Taiwan's higher education. Traditional Confucian ideology of education, and also similar Western ideologies, encouraged the ideal of liberal or general education in modern Taiwan's universities, whilst simultaneously certain Western influences and the needs of Taiwan's own economy promoted the vocational orientation of the university. Moreover the entrance examination for university and credentialism influenced student's choice of subjects and career aspirations. At the same time, the conflicting ideas between cultural and economic function of higher education influenced government policy-makers and university teachers and parents. All these factors had an impact on the employment problems of graduates.

4.9 Conclusion

There are four main points to be made. First, the conflict between the roles of higher education has become serious following the enrolment of much larger numbers of students. Now that the majority of students come from middle or working class backgrounds, there is an increased emphasis on vocationally oriented curricula and the economic function of higher education. As a result the traditional idea of a liberal education is being challenged.

Secondly, there is much similarity between the traditional ideology of liberal education of Confucianism and British education from the 16th century to the 19th century. The similarities help us to understand how the traditional ideology of liberal education survives in Taiwan but is under greater and greater pressure as the demands of the economy and society on higher education increase. In Great

Britain, the ideal of traditional liberal education, although developed by Cardinal Newman in the late 19th century, in fact dates back to medieval times. It has been argued that its emphasis on academic study for its own sake was one of the reasons which caused Britain weakness in modern international industrial competition. Robbins and other educationalists have been trying to rectify the traditional ideology by making instruction in specific vocation-oriented knowledge and skills a priority for the higher education system.

Thirdly, the conflict between these ideas in the United States of America seems to have been less serious than that in Britain. There was a conception of balancing liberal arts and general education with specialist studies. In the United States the prevalent mood of pragmatism and the Morrill Act in particular brought higher education in its early stage of development into contact with society. In contrast to Robbins, Hutchins and Flexner tried to preserve cultural and research function of university in order to escape the university becoming simply a "service station".

Fourthly, the conflicting and unclear roles of higher education in Taiwan can be explained in terms of traditional Confucian ideas of education and the needs of economy and the government's political objectives. The conflicting ideas may make it difficult for students to adjust to the curriculum and to fit themselves into society after graduation. Liberal education in some old-fashioned or specifically political curricula was so narrow that it could not cultivate students' general knowledge and abilities. However, the pride of intelligentsia still exists among university authorities and among university teachers. This

tended to isolate the university from society and from collaboration with industry, these factors led students entering into the job market to doubt the value of their education. The impact of these values on specific areas of university policy and practice - affecting graduate employment - will be examined in the following chapters.

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PART II TRANSITION FROM UNIVERSITY TO WORK

CHAPTER 5 MANPOWER PLANNING AND HIGHER EDUCATION POLICY

The alternative explanations of graduate unemployment may be distinctly opposed when confronted at a general conceptual level as in chapter 3 and 4. The application of these two sets of propositions to specific elements of higher education policy and the evaluation of the relative importance of each is less clear. They require further investigation. How far do policy and practice in areas such as admission of students, selection of courses and choice of future careers - which are crucial to graduate employment and unemployment - reflect a deficient conceptualisation and application of the "economic" view of education? How far do they show the continuing power of traditional beliefs about higher education? The following chapters examine these questions in relation to four specific elements of policy and practice - manpower planning and higher education admission procedures; collaboration between universities and industry; occupational aspirations of students; and careers guidance and counselling.

The formulation and implementation of manpower planning policies are central to such an investigation and are considered first. If these policies were properly designed and applied then their failure could be explained reasonably by the persisting strength of traditional views of higher education. The question then would be which groups - academics, students, government officials or employers - were responsible primarily for this resistance. But first the possibility ought to be considered that manpower planning policies were conceived and executed inconsistently and inadequately. In that case the strength of the traditional cultural view of higher education would be less

important than the ineffective application of the economic conception.

With respect to the employment problems of graduates, the assumption made by government was that there was a mismatch between the demand for and the supply of graduates. This mismatch could be solved if the admission policy of higher education followed manpower plans or forecasts. This governmental view supposes that higher education should promote economic growth and an adequate supply of qualified manpower will achieve that target. Therefore the "adequate" number must be decided according to the needs of the labour market. If the supply of graduates cannot be absorbed by the labour market, or cannot satisfy the specific needs of the labour market in terms of specialisms, it not only hampers economic growth, but may lead to graduate unemployment.

As a result of such considerations, manpower plans have been designed and promulgated by the Council for Economic Planning and Development. But they have had little significant success in achieving a balance between the number of graduates supplied by higher education institutions and the number demanded by the labour market. Two reasons are suggested. First is the difficulty of correct predicting future needs for manpower. Second is the reluctance of the Ministry of Education and the university authorities to allow manpower plans to guide admission policies.

5.1 The Institutional Background of Manpower Forecasting

There are two basic approaches to forecasting the need for qualified manpower. One is to set targets for particular occupations. The other is to use an economic planning model in which the requirement for qualified manpower in general is determined as part of an integrated economic plan (1). Many countries practise both kinds of forecasting. Forecasts of the needs for people in particular occupational categories are relatively easy to make and generally are accurate in prediction. On the other hand integrated planning provides decision-makers with a broad view of the future. In Taiwan not only are the future needs for engineers, scientists and teachers regularly forecast but also there is a medium- and long-term manpower development plan integrated with general plans for economic development.

Different institutions provided forecasts of the manpower needs of particular occupations. The Ministry of Education sponsored the Taiwan Normal University in 1978 to forecast the need for secondary school teachers for the following ten years, 1979 to 1989. In 1980 Taiwan Technical College was engaged by the Council for Economic Planning and Development to provide a ten year forecast of the need for engineering manpower. The Council itself also predicted the need for scientific-technical manpower for national construction projects between 1985 and 1995. Systematic forecasting of demand for all kinds of highly qualified manpower (except teachers) was the Council's exclusive responsibility.

Process of Formulating Manpower Development Plans

There also have been six general manpower development plans promulgated by the Council and its predecessors since

1965. Each plan was constructed to coordinate with the economic plan for the same period. The basic aims of the first manpower plan were to promote manpower quality, to sustain full employment and to improve labour practice and discipline and then to break through the vicious circle of a less-developed economy and to accelerate economic development (2). This plan predicted the future needs of the general labour force and did not make specific forecasts of long-term needs for highly-qualified manpower. In the medium-term (1965-1970) plan, there were four objectives set for universities and colleges:

- (a) to adjust the number of enrolments in order to meet the needs for highly-qualified manpower as specified by the medium-term manpower plan;
- (b) to improve graduate schools, sustain academic standards and provide qualified teaching staff;
- (c) to change policies about studying abroad, keep close contact with those studying abroad, and encourage them to return to Taiwan after they have completed their studies;
- (d) to promote collaboration of universities and colleges with industry to foster technical manpower development and to improve the skills of business management(3).

These general principles encouraged the fostering of highly qualified manpower and the collaboration between higher education institutions and industry. Because Taiwan was in her export promotion period, the boom in industry needed more technicians and engineers. The serious problem of the "brain drain" (mostly engineers and scientists) was thought to be an impediment to Taiwan's economic development. Hence it was necessary to encourage those studying abroad, especially in science and engineering, to return.

Since the third manpower development plan (1970-1980), long-term forecasts of highly qualified manpower needs have been made. Rough prediction of the numbers of qualified manpower required in various specialisms in the following ten years have been made. The plan - The Next Four Years (1971-1974) Manpower Needs and Education and Training Programmes in Taiwan - posited that the numbers of science, engineering, medicine and agriculture graduates were still far below economic needs whilst there was an oversupply of liberal arts and law graduates(4).

The latest manpower development plan was based on the basic policies laid down in The Long-term Economic Outlook for Taiwan, Republic of China, and the Ninth Medium-term (1986-1989) Economic Development Plan for Taiwan, Republic of China. 1985 is the base line for this latter plan. The years 1989 and 2000 were set as the plan's medium-term and long-term target years. The procedure employed in formulating this plan is shown in figure 5-1. The main target of the plan was to forecast the manpower requirements and supply and to predict the changes of employment structure. Both demand and supply sides are measured in making this manpower plan. On the demand side the net increase of employment and the need of replaced workers were considered. On the supply side, the probable changes of the labour structure - population growth, sex and age structures and labour force participation rate - as well as educational output were considered. The plan indicates the long-term and medium-term objectives of educational development at all levels. Those related to higher education in the long-term plan are

- (a) to strengthen junior college education and diversify its development;

- (b) to improve university and graduate education to fully realise the potential of higher education;
- (c) to strengthen scientific and technological education in order to lay a solid foundation for further scientific and technological development.

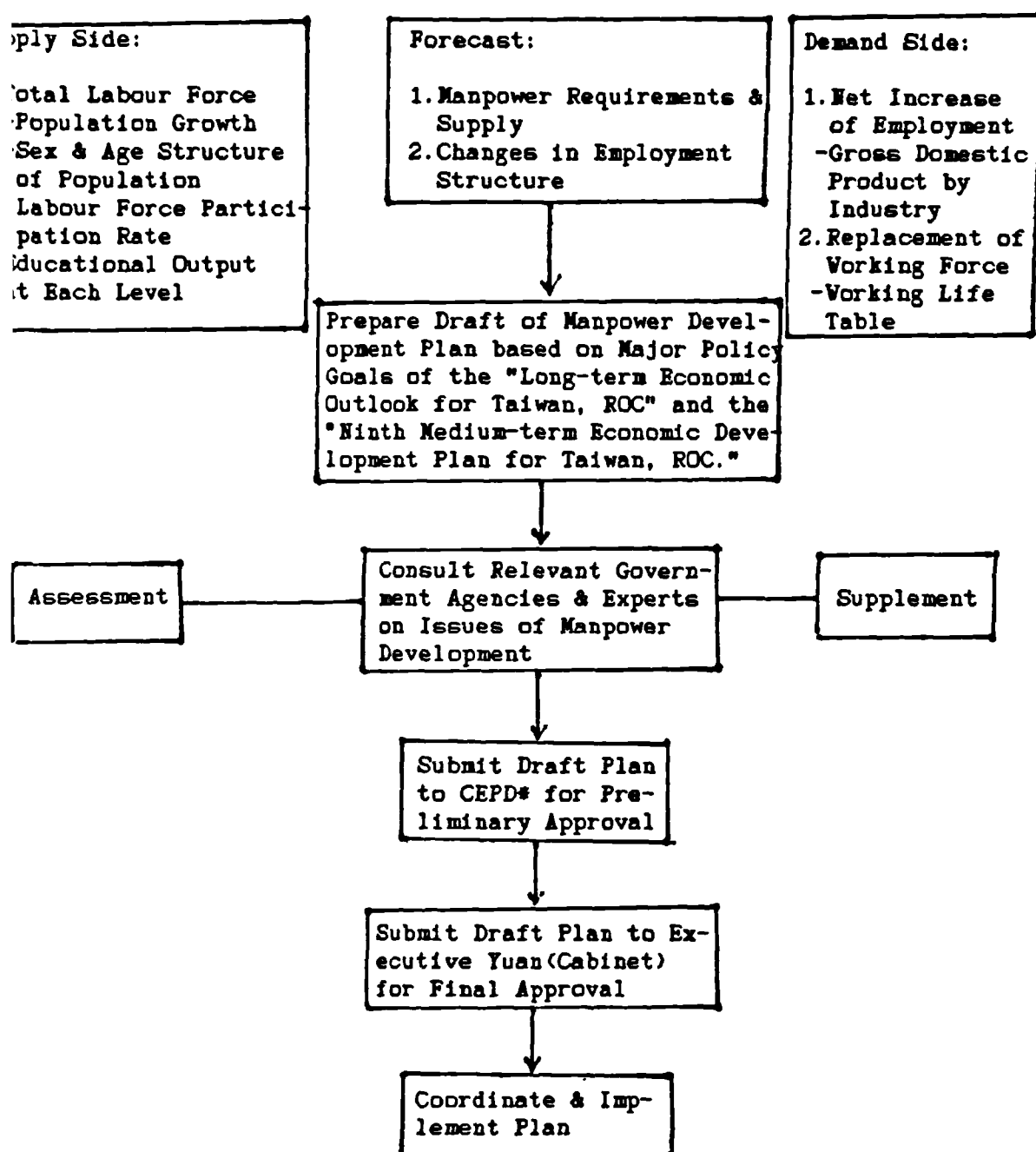
In the medium-term the objectives are

- (a) to strengthen junior and technical colleges, expand the number of enrolments in departments in high technology and science, formulate a technical and vocational educational act and promote the development of curriculum and teaching materials;
- (b) to promote a balanced development between natural and social sciences in universities, strengthen cooperative programmes between universities, and enhance the teaching, research, and social service functions of universities;
- (c) to increase cooperation between fields in universities and graduate schools and to make full use of the resources of departments and graduate schools (5).

The Weaknesses and Difficulties of Manpower Development Plans

There have been six manpower development plans. All were published except the fourth which was not ratified by the Cabinet. There are weaknesses in the procedures for the design of these plans. As a result they were not taken seriously by the educational authorities when formulating admission policies. The weaknesses arise from:

- (a) shortage of experts in manpower planning with the result that the plans are not soundly constructed (6);
- (b) weaknesses in the theoretical bases employed in making the forecasts;
- (c) defects in the quality of the manpower statistics used to devise the plans. (7);
- (d) the institution that construct the plans lack sufficient powers to collect their own data or negotiate with other related institutions.



*: Council for Economic Planning and Development

Figure 5-1 Flow Chart of Formulation of Manpower Development Plan

Source: An Introduction to the Manpower Development Plan 1986-2000, Taiwan R.O.C., Council for Economic Planning and Development, Executive Yuan, Taipei, Republic of China, Dec., 1987, P.2.

About the last point, as can be seen from Figure 5-1, the subcommittee which is engaged in manpower plans is a branch of the Council for Economic Planning and Development. It is a small organisation with limited staff. Most of its work was carried by means of consulting other governmental agencies (such as the Directorate-General of Budget, Accounting and Statistics) and experts in other institutions. Furthermore, the Council itself does not have equal status with ministries. Thus the machinery for manpower planning lacks the resources and power to ensure other institutions to comply with the published plans.

The economic system in Taiwan is a mixture of a planned and a market economy. Officially it is called a "planned free economy". There are economic plans designed by central government incorporating policies for major economic development and for the expansion of particular industries, but in terms of the individual companies the operation of the market is free. Although the supply of educated manpower is under the control of the Ministry of Education, the government's power to influence demand for manpower in the economy is rather limited. As a result, the manpower planning cannot be so effective as that in a fully planned economy. These are difficulties which are shared by all market economies in making manpower plans.

The difficulties could be that the flexible labour market makes the fixed manpower requirement meaningless; forecasting technique unreliable, and long-term forecasts impossible. Moreover, the fundamental validity of manpower requirements or needs has been doubted (8). Given such weaknesses and difficulties of the design of manpower

planning, it is understandable that the Ministry of Education has not followed the plan consistently.

5.2 The Formation of Admission Policies in Higher Education

Under the Institutional Law of the Ministry of Education, policy for higher education is made by the minister, one political vice-minister and two administrative vice-ministers(9). The Department of Higher Education is responsible for most of the affairs of universities, independent colleges and junior colleges. The coordinating units, including the Department of Technological and Vocational Education, the Department of Physical Education, the Bureau of International Culture and Educational Relations, assist through the devising policies relevant to their respective spheres.

The Ministry of Education is a subordinate unit of the Executive Yuan (the Cabinet). Administrative acts by the Ministry, such as policies, plans, financial budgets and legal regulations, are required to be submitted formally in writing to the Cabinet for approval. The Cabinet may veto proposals and impose policies on the Ministry.

The Ministry of Education will also seek to negotiate and consult with certain other ministries and government bodies on matters concerning higher education policy; for example, the Ministry may consult with the Council for Economic Planning and Development and the Council for Research, Development and Assessment over plans for the long-term development of higher education.

Even though the Ministry has power over the universities and colleges, it still seeks to obtain agreement from university and colleges on policy matters by such means as visiting universities and colleges and meetings with principals and teaching staff.

As mentioned, the central government's power to influence the demand for graduates in the labour market is limited. However, through controlling the number of successful candidates in the Joint Examination for Universities and Independent Colleges, it has absolute power over the supply of graduates not only in terms of total number, but also disciplines. Normally the examination is sat by candidates who have graduated from senior high school. The pass rate, leading to admission to universities and independent colleges, is set by the Ministry of Education. It decides the percentage of candidates that shall pass and adjusts the pass mark accordingly after the papers have been marked. The pass rate is normally about 30%.

The Procedure of Setting up New Departments and Varying the Number of Enrolments

Setting up a new academic department is generally initiated by the university or college concerned making a proposal and then the Ministry making the final decision whether to permit it. The Department of Higher Education at the Ministry has adopted four criteria in making such decisions:

- (a) whether the proposed department is needed for "national construction projects". This is decided by reference to the reports of graduate employment, manpower plans and forecasts and plans for economic development devised by the Council for Economic Planning and Development;

- (b) whether it will lead to over-diversity of departments, that is a new department should not be like a branch of an existing department;
- (c) the suitability of the university or college itself in terms of, among other things, the qualifications of the teachers, facilities, and the employability of its graduates of various departments;
- (d) the priority to be given to departments related to scientific and technological disciplines.

The rules for varying the number of enrolments are:

- (a) a newly created department may have only one class restricted to fifty students;
- (b) established departments are only permitted to increase enrolment by a maximum of 20%;
- (c) the number of enrolments can be varied exceptionally by the Ministry on the basis of consideration of the needs of national constructions development, of the teachers' qualifications, the facilities of university or college, the number of applicants for places at the department and the employability of graduates of the department;
- (d) decreasing the number of enrolments in any department is prohibited (10).

In accordance with these principles those departments believed to be important for economic development have been given priority and in particular, the enrolments of scientific and technological department are permitted to increase. Moreover, the fixed rate of increase of enrolment and the prohibition of decreasing the number of enrolments in any department has prevented the free adjustment of the market mechanism of demand and supply of graduates. The implication of the prohibition on decreasing the number of enrolments was to guarantee no decline in humanities, arts and some social sciences subjects.

5.3 The Relationship between Manpower Planning and Admission Policies of Higher Education

One of the aims of the manpower forecasts made by the Council for Economic Planning and Development is to provide the education authorities with an indication of future needs for educated manpower. However the educational authorities have not tailored their plans in accordance with those forecasts, with the result that the supply of graduates has not been balanced by the demand for them in the labour market. There appear to be some technical and administrative reasons for this.

First, the distribution of the published manpower plans has not succeeded in reaching all those concerned in deciding students numbers. After the publication of manpower forecasts, the Council for Economic Planning and Development distributes the report to every organisation which is affected by this plan. These organisations include the National Youth Commission, the vocational training and guidance centres in every county and city, the Ministry of Education, and all vocational schools and higher education institutions. However, this distribution seems to have been ineffective. According to my own survey in 1988, most university teachers and even heads of departments said they had not seen the published forecasts. Heads of academic departments are responsible for proposing the increase of the number of enrolment to the Ministry of Education. If they had no idea of manpower forecasts, they certainly could not follow the plan.

Secondly, the Ministry of Education can not help but respond to popular demand for higher education which has

been growing during the last two decades. The number of senior high school graduates sitting in the Joint Entrance Examination for Universities and Independent Colleges increased from 55,000 in 1964 to 110,000 in 1988. As a result the Ministry found it difficult to restrict the number of enrolments in departments that were no longer economically relevant even though manpower forecasts warned of oversupply. For instance, in 1965, a manpower forecast predicted that the demand for graduates with commercial and business specialisations would be over 1,500 persons per year between 1965-1970; for agricultural specialisations it would be over 800; for humanities specialisations it would be over 200; while the need for graduates specialised in engineering, medical sciences and education, would fall short of 800, 400 and 3,300 respectively per year (11). The figures of students receiving higher education during this period (see Table 5-1) show no decrease in the number of enrolments in the humanities. In agriculture the number of enrolments did not decrease until 1971 and the number of students specialising in business subjects actually increased throughout the period. The growth rates of students in engineering occupied the first place (31.54%) in this period. However, those in social sciences, agriculture and arts also experienced a high growth rate (24.11%, 17.17% and 15.48% respectively). The high growth rate in each discipline could be justified as there was expansion in higher education generally and social sciences and humanities department were easier to expand than others. However, the fact that manpower forecasts were not heeded is obvious.

Thirdly, some administrative difficulties prevent the Ministry of Education following manpower plans and

Table 5-1 Number of Students Receiving Higher Education by Disciplines

| Period | Humn. | Educ. | Agri. | S. Sciences | Engi. | Med. Sciences |
|---------------|-------|-------|-------|----------------|-------|------------------|
| 1965- 1966 | 10422 | 6453 | 5447 | 32751 | 12920 | 7149 |
| 1970- 1971 | 19373 | 13809 | 11477 | 69470 | 49886 | 20689 |
| 1971- 1972 | 21676 | 16153 | 10990 | 73426 | 55705 | 21826 |

Key: Humn.: Humanities; Educ.: Education;
 Agri.: Agriculture; S.Sciences: Social sciences;
 Engi.: Engineering; Med.Sciences: Medical sciences.

Source: Educational Statistics of the R.O.C. Taiwan,
 1967, 1972, 1973, Taipei, Ministry of Education.

forecasts. For example, if the Ministry, following manpower forecasts, reduces the number of enrolments in certain departments, or even abolishes some departments which are not economically relevant, it will encounter many unpleasant problems, such as the need to dismiss teachers and the protests of alumni and students (12). As a result those departments in so far as left unchanged, continue producing graduates unable to easily find their place in the job market(13).

5.4 The Analysis of the Relationship of Higher Education Policy to Manpower Planning in terms of Conflicting Ideas of Higher Education

As well as technical and administrative difficulties, the conflict between the traditional ideas of higher education and the emphasis on its economic functions may also explain why manpower planning did not effectively determine admission policies in higher education.

On the one hand broad political and economic aims made economic development important for Taiwan's survival after the Republic of China settled in Taiwan. This ideology had already encouraged education to meet the needs of the economy, particularly to train adequate manpower for the labour market. This was further reinforced by the influence of views of the economics of education adopted from Western countries, U.S.A. in particular. On the other hand, the traditional Confucian view encouraged people to receive education, in particular higher education, as a mark of prestige both for the students themselves and for their families. In addition, ancient Chinese ideology which treated education as a ladder for social mobility in terms

of its symbolic function rather than its content has been widely retained by the public at large.

These ideologies influenced the admission policies of higher education. For government, the needs of the labour market should determine the number of the enrolments to universities and colleges. However, the desires of students and society as a whole for more opportunities in higher education cannot be neglected. If the economic function of education is overemphasised by government from its economic planning perspectives, there will be opposition from those who insist on cultural values and the cultivation of virtue in higher education.

In the Ministry of Education

The conflicting ideas of the economic and cultural functions of higher education posed a dilemma for the Ministry of Education. Sometimes decisions on the number of enrolments and the establishment of new departments were influenced by economic plans, but sometimes they were made in response to social demands and to accomplish cultural aims. The choice seemed to be related to each minister's individual ideas of the function of higher education. Most of them tried to achieve a balance between these conflicting ideas and to satisfy demands of different parties. As a result, there was an oversupply of graduates and this strategy neither satisfied social demands nor the needs of the labour market. Manpower planning approaches in such a circumstance sometimes were adopted and sometimes neglected.

The motives of the Ministry of Education to satisfy both the needs of economy and society led to the overexpansion of higher education. Even though the overexpansion has already

created many employment problems of graduates, the Ministry still has not taken them seriously. S.L.Tsai indicated that education in Taiwan always had been influenced by an ideology which encouraged large scale education, a high quality of educational output and high educational spending (14). This reflects the symbolic meaning of education in terms of national prestige. The Ministry under this influence, tends not to consider the absorptive ability of the job market while it is expanding higher education. Since 1987, more comprehensive universities and technical colleges were and will be set up in the county, it still reflects the same idea.

In Universities and Colleges

The practice of manpower planning to meet the needs of the economy seems have met even more obstacles in the universities and colleges members than in the Ministry of Education. This is not surprising as the minister of education is a member of the cabinet, and may be expected to follow those policies which give first priority to economic development. However, university authorities and teachers have no such responsibility. The results of my interviews and questionnaires suggested that the attitudes towards the manpower planning of university teachers are quite diverse.

The idea of manpower planning has given rise to the greatest controversy. Fulton et al. suggest that there are two main arguments in favour of such planning and two main against. In favour of manpower planning: "The first is that higher education makes extremely heavy demands on society's resources and it is inefficient and inequitable to treat it simply as a luxury consumption good for a relatively small number of people. The second is that even in countries

where higher education provision is based upon social demand a very high proportion of the students do themselves consider that it has vocational implications for them". Against such planning: "the first is that the amount of information required and the frequent changes brought about by technological progress and social change may make it virtually impossible to assemble the data necessary in order to make useful manpower forecasts. The second, is that the nature of the economic system is such that there may be no clear relationship between the economic activity of an individual and his educational qualifications"(15).

These four arguments were used as items to measure the attitudes of Taiwan's university teachers towards manpower planning in my survey in 1988. Out of a sample of 64 university teachers, 57 agreed with the two arguments in favour of manpower planning (16). Despite these stated beliefs, heads of departments did not make suggestion to the Ministry of Education about increasing or decreasing the number of enrolments in line with the plan. Ten of the eighteen departments that responded to my questions made no reference to the manpower targets of the Council for Economic Planning and Development when deciding whether to increase or reduce enrolments. Some heads of departments even said that they had no knowledge of the forecasts (17). This suggests that, even though educators and teachers favour manpower planning in theory, in practice they seldom follow it.

Four well known professors and scholars expressed their views on the adoption of manpower plans and the role of higher education in a modern society. Their views indicate the diverse opinions of university teachers. In supporting

manpower planning, C.H.Lai claimed that since Taiwan has limited natural resources and a large population, any available resource should be fully used. The adoption of manpower and educational planning is needed for Taiwan to continue her economic development. He said the advantages of adopting manpower planning can be summarised as follows:

(a) Reducing the imbalance of supply of and demand for manpower, decreasing the youth unemployment rate, avoiding the wastage of human resources and the shortage of technical manpower.

(b) Providing information on industrial development and indicating the developmental trends of the labour market to educational authorities, which will allow them more easily to make decision about the number of the enrolments and adjusting the ratio between university and junior colleges.

(c) Providing information about the future manpower needs for students when choosing university or college and subjects studying(18).

Manpower planning arguments supported by Lai was criticised by some university teachers not only because of its technical difficulties in prediction but also its view of education.

K.C.Chen criticised manpower planning proposed by the Council for Economic Planning and Development for the following reasons. First, the design of the manpower planning based on the current structure of occupations could not have effective power of prediction. Secondly, there was a time lag between publication of targets and education institutions achieving them. The cultivation and training of qualified manpower depends upon qualified teachers and well established equipment. It takes time to meet these conditions. Usually in Taiwan's case, the achievement of the qualified teachers and equipment comes after the period of the relevant plan's operation. Thirdly, the

acceptability of the emphasis on economic function of education and the neglect of its cultural and social functions in manpower planning is debatable. Fourthly, the adoption of manpower planning means recognition of the "perfection" of current educational system, which will slow educational development (19). While Chen criticised the faults of the manpower plans designed by the Council for Economic Planning and Development, he did not oppose the plan in itself, especially if it broadly considered the future needs of economy and possible changes in future occupational structures.

H.Y.Chu was totally opposed to the utilitarian ideology of education. He indicated that the development of a country should not be restricted to economic aspects only. If other social and cultural aspects were ignored or undervalued, the whole society would experience crisis. The difficulties of social development in Taiwan at present in his view, are that economic development has been so rapid that political patterns, social structures and cultural development have not adjusted to it. Resolution of this problem cannot be achieved by rely on technical personnel alone. It requires social scientists to study it. When the economic function of education is overemphasised in terms of manpower plans, the long-term effects of social culture are ignored, and when the scientific-technical education is given much attention, humanities and social sciences education are neglected, the development of higher education will be distorted in Chu's view (20).

H.S.Chan from another angle tried to understand the opposition to manpower planning. He argued that the reasons can be understood from a philosophical point of view. The

function of education is neither to meet the needs of the labour market nor to help an individual to find a good job. The purpose of education is the self-development of an individual. From this point of view the economic perspective of manpower planning is a humiliation of the dignity of human being. In addition, the effects of education can not really be measured. Manpower planning should not be adopted in view of the lack of reliable techniques of measurement (21).

In the Economic Sector of Government

The economic function of education has been emphasised by government, especially its economic sectors, under the influence of broad political strategies. The political ideology made economic development first priority for national well-being. Since Taiwan entered her export promotion period of industrial development from 1961, to make education and vocational training meet the needs of manpower demanded by public and private industries became an urgent task for government. C.K.Yen - the Prime Minister at that time - emphasised the significance of the development of human resources. The prime objective of his cabinet was to "develop an vigorous political atmosphere, to encourage the development of private industry, to make full use of human resources and to accommodate the youth in proper occupations." In several speeches he emphasised that education was the main road leading to economic development, and to the recovery of the lost territory of the mainland China (22). This shows the decision of government at that time to use education to promote economic growth.

K.T.Lee was prominent in promoting the development of manpower planning in Taiwan. He was the vice-chief of the

Council for International Economic Cooperation (the predecessor of the Council for Economic Planning and Development) at Yen's Cabinet. He was influenced greatly by Western countries (particularly the U.S.A.) and by human capital theory. He adopted those theories he learned from the West in creating manpower policies. In those speeches he made during the 1960s, he asserted that

(a) at the beginning of industrial development in Taiwan, the most important thing is to learn those techniques which had been developed in industrialised countries. However, depending on the foreign experts for these techniques is not enough to promote Taiwan's economic development. It is more important to learn their knowledge and skills.

(b) in order to meet the needs of industrial development, the supply of certain particular categories of manpower, such as engineers, technicians, business managers and skilled workers, should be the first priority for educational institutions.

(c) engineers and technicians also need to have ability to deal with administrative affairs, therefore, the engineering education in tertiary education should include courses such as economics, interpersonal relationships and management of organisation.

(d) education is investment, not consumption but to develop education on a large scale is insufficient. The economic returns must be considered. Full use must be made of educational spending and its reasonable distribution.

(e) the development of vocational education should be accelerated, and other educational institutions should follow manpower target in deciding the number of the enrolments. If educational investment does not increase employment opportunities, then the investment shall have been totally wasted.

(f) the tasks of manpower planning should include:

- (1) having sufficient demographic and educational statistical data before designing manpower plans;
- (2) estimating and analysing the long-term trends of employment;
- (3) promoting the coordination between education and training schemes on the

one hand, and the needs of job market on the other;
(4) setting up regulations to direct manpower to those jobs relevant to economic development. (23)

These assertions were followed by Lee's successors and had great influence on strategies of manpower and higher education planning.

5.5 Conclusion

Manpower plans and forecasts have been applied unsuccessfully to guide the admission policies of higher education in Taiwan. Even though technical and administrative difficulties prevent them being widely adopted by educational authorities and industry, manpower plans are still designed and published at fixed intervals. As long as the overall plan for economic development exists, manpower plans will be made simultaneously to indicate the usage of human resources intended by government.

The central government's first priority on economic development has remained unchanged since the commencement of the export promotion phase. Education was deliberately directed to achieve this target. However, traditional ideas of education which emphasised cultural function still have their influence on educators and the public and thus indirectly on government. This view of education does not accept the economic implications of higher education and forms another obstacle in realising manpower plans.

As result of these practical difficulties and ideological conflicts, manpower and educational plans (particularly plans for higher education) have failed to be consistent

with each other. Educational authorities have not much concern with the real needs of the economy and with the unemployment problems of graduates. Manpower plans are continuously made without much effect either on guiding the industry or educational institutions. However control of admission policies is not the only way to relate higher education to economic needs. The career aspirations of students may be changed once they have entered higher education. One means to achieve this change is collaboration between university and industry which will be considered in the next chapter.

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- (7) Ibid., P.27.
- (8) Psacharopoulos, G. & M.Woodhall (1985) Education for Development - An Analysis of Investment Choices, New York, Oxford University Press, PP.72-73.
- (9) The political vice-minister is appointed by the prime minister or the Minister of Education. He does not need to pass a national examination to get this job. However, the administrative vice-ministers must be qualified before getting their posts. The political vice-minister seems to have a higher status in making decisions than the other two vice-ministers, but he must resign when the Prime Minister or the Minister of Education left their offices. The political vice-minister normally deals with those educational affairs related to other sectors of government, but the administrative vice-ministers deal with the normal affairs of the Ministry of Education.

- (10)a. Being afraid that decreasing the enrolment of some departments will incur criticisms from parents, teachers and staff of those departments, the Ministry of Education decided not to decrease the number of enrolment, even though some of these departments provide graduates which the job market had already had difficulties in absorbing.
- b. These principles for setting up new departments or branches and increasing or decreasing the number of enrolments are from documents of the Ministry of Education.
- (11) The need of teachers in such a great number was because the Nine-Year compulsory education plan started in 1968, which demanded many more primary and secondary teachers.
- (12) In public universities, alumni have considerable influence upon their former departments in terms of financial support and the reputations they established in their careers which reflects on their departments. They are proud of their departments, even though their departments may be thought to be no longer relevant to the economy, the abolition of these departments will face powerful opposition.
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- (15) Fulton, O., et al (1982) op.cit., P.23.

- (16) Among 64 respondents, 26 supported the first statement approving of manpower planning, and 31 the second. 5 agreed with the second critical statement but 2 teachers agreed the first hostile statement.
- (17) Of the eighteen heads of department responding, ten did not refer to manpower planning when considering increasing or decreasing enrolment, six said that they did whilst two departments said that they had not considered varying the number of enrolments in response to these targets.
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- (22) a Recovering the Mainland China has been a final governmental aim, therefore, many policies have been designed in the light of this recovery.

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CHAPTER 6 THE COLLABORATION BETWEEN UNIVERSITY AND INDUSTRY

The employability of graduates may be increased by giving them more knowledge of the content of their future jobs. This can be achieved by strengthening the collaboration between university and industry. This is especially beneficial to those who specialise in scientific and technological subjects. However, these connections may affect the employment of graduates also in other ways. They may change attitudes of university teachers to industry and these valuations may then be passed on to students. Collaboration may also change the views of employers towards their future employees and thus help them to make efforts to ease the movement of graduates into employment.

Industry-university collaboration is crucial to the success of an "economic" strategy towards higher education. Government in Taiwan should take a lead in encouraging such links if it is serious about relating higher education to the economy. But, even determined government action is likely to be ineffective if teachers and students in higher education are opposed to industry-university working relations.

Since such collaboration has been weak in Taiwan, a prior analysis of the industry-higher education links in other countries may illustrate the kind of connection that might be possible in Taiwan.

6.1 Benefits of Collaboration between University and Industry

Numerous reasons have been suggested to justify the collaboration between university and industry in Europe and North America. L.Cerych listed a number of factors in explaining the shift in attitudes from its treatment as a taboo in the 1970s to its enthusiastic acceptance in the 1980s in Europe:

- "1.the end of student movements originating in the philosophies of 1968;
- 2.difficulties faced by graduates in the job market;
- 3.growing awareness of the unsuitability (for individual purposes) of many traditional university courses, including those in science and technology;
- 4.disappointment regarding the results of numerous reforms dating from the late 1960s or early 1970s, which were often insensitive to specific problems facing industry;
- 5.the rapid development of new technologies in general and new information technologies (NITs) in particular, a trend with which higher education in itself has been unable to keep pace;
- 6.growing awareness of the fact that in this particular field (NIT), the U.S.A. and Japan are forging increasing ahead of Europe;
- 7.budgetary cuts and the needs for universities to seek new resources. (1)"

Some of these factors such as the student movement and budget cuts in higher education are not applicable to Taiwan. Others such as the difficulties of graduates in finding jobs, the unsuitability of university courses to industrial development and the development of NIT are also relevant to the need for collaboration in Taiwan, especially as Taiwan's industry transfers from labour-intensive to capital- and technological-intensive patterns.

In the United States of America, Peters and Fusfeld surveyed thirty six universities and fifty six companies to discover their motives for interaction(2). Companies mentioned the following reasons to seek cooperation with universities.

- 1.to obtain access to manpower(75%).
- 2.to obtain a window on science and technology(52%).
- 3.to provide general support for technical excellence(38%).
- 4.to gain access to university facilities(36%).
- 5.to obtain prestige or to enhance the company's image(30%).
- 6.to be good local citizens or foster good community relations(29%).
- 7.to make use of an economical resource(14%).
- 8.to solve a particular problem or get specific information unavailable elsewhere(11%).

The reasons universities chose to interact with industry were:

- 1.to obtain access to industry as a new source of money and so help diversify the university's funding base(41%).
- 2.to expose students to real-world research problems(36%).
- 3.to provide better training for the increasing number of graduates going into industry(33%).
- 4.to avoid some of the red tape and time consuming reporting requirements that obtaining government money involves(28%).
- 5.to work on intellectually challenging research programme that may be immediate importance to society(24%).
- 6.to gain access to company research facilities and equipment(23%).
- 7.to gain access to government funds available for applied research based upon a joint effort between university and industry(8%).

Among these reasons, acquiring financial sources is the main impetus for university to seek cooperation with industry in the United States of America, just like that in European countries. Since Taiwan's higher education is adequately

funded by government or by private organisations, seeking alternative financial sources rarely happened, but providing students work experience and better training are thought important by those who support collaboration.

R.C.Mehrotra in a discussion of university-industry interaction in developing countries illustrated three advantages in this collaboration(3) (particularly stressing the increased employability of science graduates) as follows:

- 1.to make the teaching and research in the universities more relevant to the requirements of industry and more meaningful for graduates future role in the solution of actual problems;
- 2.to help scientists in industry to learn about the latest advances and techniques in their fields and thus,
- 3.to improve the image of science by better employability of graduates and greater application of science to social welfare.

D.S.Tatel and R.C.Guthrie believed that the major perceived benefits to universities in developing collaborative research with industry was "the potential for long-term research support less entangled in government regulations and red tape; a means of rapid technology transfer from academic laboratories to commercial application; broader educational experience; industrial exposure; and employment opportunities for students(4)."

6.2 The Forms of Collaboration

Employment opportunities for graduates can be increased through the collaboration between universities and industry. The question remains, however, what form of collaboration can make students more employable? After summarising

frequently encountered "models" of collaboration, Cerych listed different possible forms of collaboration(5):

- 1.cooperation in research;
- 2.university lecturers and researchers acting as industrial consultants;
- 3.industrial executives, engineers and researchers acting as part-time university lecturers;
- 4.work placement of students in industry....;
- 5.different types of lifelong or adult education organised by higher education institutions for industrial personnel;
- 6.the reduced-price sale or donation of equipment by industry to universities;
- 7.regular mutual visits;
- 8.jointly organised meetings, conferences and seminars;
- 9.joint publications;
- 10.joint participation in exhibitions of fairs;
- 11.industrial support for student associations or activities like sport or travel;
- 12.industrial representation on the governing and consultative board of higher education establishments.

Among the twelve forms of collaboration, 1 to 5 are thought much more important because they can benefit both university and industry more than the others. Through these forms of collaboration, students' employability was expected to be improved by virtue of acquiring both advanced knowledge in their fields and practical work experience. Moreover, K.L.Mai pointed out the collaboration can also better communicate to students an idea of industry's job content and job expectations(6). In addition, through constant contacts between university and industry, between students and personnel of industry, students would be easily recruited to industry after graduation.

6.3 The Practical Difficulties of Collaboration between University and Industry

In spite of recognition of the advantages of the collaboration between university and industry, there are practical difficulties in collaboration which can not be easily reduced. First, the lack of flexibility of university structure makes good communication between disciplines or departments difficult. This obstructs industry in solving problems of interconnection between areas(7). Secondly, the timing could be difficult as universities and business do not normally work on the same schedule or at the same pace. If students are doing consulting work for business, it may be difficult to fit problem solving into a semester-oriented framework. Business and industry are also accustomed to work at a quicker paces with shorter turnaround times than university bureaucracies(8). The third difficulty may result from the overburdened teachers and students. If faculty members already are overcommitted with teaching loads or administrative functions, few would like to develop other activities(9). The same situation can arise with students who can not keep up with their course loads(10).

There are other difficulties such as: disputes about patenting and licencing rights over research results, competition between professors for research projects and the use of students as cheap labour. These additional questions are not relevant to this study and will not be discussed here.

6.4 Liberal Arts and Humanistic Subjects Concerned

In discussing the collaboration between university and industry (or business), the focus tends to be placed on scientific, technological subjects and on some social science disciplines. Liberal arts and humanities seem to be left out of the picture because the nature of these subjects appears to be non-vocational. However, there are still some feasible ways to promote the collaboration between industry and liberal arts and humanistic disciplines. According to the report of Social Research International (SRI), a number of universities in the United States have worked to involve their liberal arts departments in programme expansion brought about by economic development. For example, at San Jose State, the English department works with local industry in technical writing and the art and music department work with industry on electronic art and electronic music(11). These are possible ways for students in liberal arts and humanities departments to apply what they have learned in a practical environment.

6.5 Government's Role in the Collaboration between University and Industry

Governments can play an important role in bringing the academic and industrial sectors together. In the United States, Tatel and Guthrie indicated that "the National Science Foundation (NSF) has undertaken two key efforts to encourage university-industry ties: (a) the industry-university cooperative research programme and (b) university-industry cooperative research centres. The first provides grants in partial support of individual research projects involving the collaboration of both academic and

industrial research. The second helps establish and temporarily support research centres involving the participation of both universities and industrial firms"(12). Even though the proper role of government and degree of intervention in cooperative research are still questioned by some scholars(13), the supportive policies of government are important.

6.6 The Practice of Collaboration between University and Industry in Taiwan

An act of 1970 in Taiwan has regulated collaboration between university and industry. Entitled - the Collaboration between University, Independent Colleges and Productive and Technological Organisations - the act set up the rules of collaboration as below:

- 1.University and independent colleges can cultivate and train those professional, technological and managerial personnel for productive and technological organisations (including the public and private industries of engineering, mining, armaments, transportation, agriculture and forestry fishing and animal husbandry), should those industries entrust them with this task.

- 2.In order to meet the needs of economic growth and expansion of national construction projects, productive and technological organisations can entrust and request teachers of universities and independent colleges to undertake relevant research.

- 3.Teachers of universities and independent colleges can be in charge of planning sections for productive and technological organisations, so long as their duties in universities or colleges allow. Technological or managerial experts in productive and technological organisations can teach in universities and colleges under the same circumstances.

- 4.During summer vacations, productive and technological organisations can invite or employ teachers and students so as to gain hands-on

experience. Those organisations should reward them reasonably.

5. Productive and technological organisations can invite or accept students from universities and independent colleges to work in their establishments during summer and winter vacations. Within these periods, suitable personnel will be designated to instruct or give assistance to students. Meanwhile, these instructors should record and assess the performance of students(14).

Although the act sets out the possible forms of collaboration between universities, colleges and industry, actual cooperative activities have not been popular in Taiwan. The few instances between universities and industry took in the following forms:

(1) Cooperative Research

With regard to this, Taiwan's situation is quite different from that of the West. Most cooperative research is between government and university, or more specifically between government and individual teachers or teacher teams. The National Science Council, the Ministry of Education, the Council for Research, Development and Assessment and the Government of Taiwan Province(15) are the major sponsoring organisations. Individual teacher or teacher teams are given grants to do research either on topics of their own choice or as assigned by the sponsors. This kind of research actually is different from so called "cooperative research", as teachers are still working by themselves with no external facilities except grants. In addition, those grants teachers applied for were not obtained through departments or faculties, so the benefits (for example, new equipment or financial support) which university faculties acquired from such research were very limited.

In my own survey of 22 departments of public and private universities and colleges in 1988, 14 had no current cooperative research with governmental institutions or industry (most neither had any such research in the past). For those departments which were undertaking "cooperative research", governmental institutions were the major sponsors. Tatung College of Technology was an exception. Its department of mechanical engineering was involved in thirty projects with industry. The reason for its close relationship with industry is obvious. The college was set up by the Tatung Electronic Company to train engineers and to do research programmes for developing new products.

(2) Exchange of Personnel

In professional fields (such as law, accounting), some experts in business and commerce were invited to universities or colleges to teach short-term courses. Occasionally, some technological experts and creators of scientific products will go to universities to give speeches. This kind of exchange experience and passage of information did not happen either regularly or frequently. Teachers working as consultants to industry and business are even rarer.

(3) Work Placement of Students

My own survey of 127 graduates of Taiwan University and Tanchiang university (1984-1986 graduates) shows that, apart from medical graduates (23 persons) who must practise in hospital before graduation, no graduates (from various disciplines) had had any opportunity to work in industry, business or governmental institutions through collaborative projects(16). A few graduates did go to work in industry or business relevant to their specialisations, but those were

opportunities sought by themselves. Their experience indicated that exposure to real work made them appreciate the constituents of their future work. It also enabled them to psychologically prepare for work and shortened the period of adjustment in their first jobs. Some law graduates said that they had been consultants to business and the public, but that had been arranged by their university (or department) itself, without the assistance of business or industry.

Taiwan Electricity Company have awarded grants to students of the National Taiwan University, Chiautung University, Taipei and Kaohsiung College of Technology. The condition for receiving the grant is that students must work for the company for at least one or two years after graduation(17). This measure was followed by some private industrial enterprises. However, it only guarantees graduates will be recruited and does not enable students to acquire work experience before graduation.

(4) Science-based Industry Park

The only prominent formal cooperative activity between industry and universities can be found in Hsin-Chu Science-based Industry Park. The major aim of the park is to introduce high-technology industries from overseas and to develop them. The long-term objective is to stimulate the development of technology in Taiwan(18). The eight priority fields announced in January 1983 were (a) energy, (b) sophisticated materials for industry, (c) information, (d) automation, (e) bio-engineering, (f) laser technology, (g) prevention and cure of hepatitis(19), and (h) food technology. The same priority is given to the recruitment, education and training of knowledge-intensive science and

technology personnel that the March 1983 science and technology manpower programme tries to implement(20).

The park, located in Hsin-Chu, is intended to give industry access to the facilities and personnel of Tsinghua and Chiautung universities. These two universities are famous for their scientific and technological work. After Taiwan University, students' second choice in the united entrance examination is either Tsinghua or Chiautung University. In one project Tsinghua and Chiautung Universities, the Academy of Industrial Research and industries inside the park work together to investigate the demand for and supply of technologists in semi-conductor materials. The teachers of the two universities and highly-qualified technological personnel make up teaching teams(21). Thus there is constant contact between teachers and experts and the latest information and knowledge is exchanged.

6.7 The Difficulties of Collaboration between University and Industry in Taiwan

Except Hsin-Chu Science-based Industrial Park, collaboration between university and industry (public and private ones) is still not popular. University teachers and students are isolated from the labour market; industry and business are not interested in involvement in campuses. According to surveys of some collaborative programmes, the general difficulties are as follows:

- (a) The lack of enthusiasm from either side for cooperation and mutual understanding makes university and industry function independently.
- (b) The divergent interests and objectives of university and industry make it difficult to reach compromises.

(c) There is no responsible section either in university or industry to deal with cooperative affairs.

(d) The problem of timing also arises. The semester system only allows students to work during vacations, but industry or business normally have longer schedules(22).

Another obstacle is the industrial structure of Taiwan. Besides the different cultures of university and industry produce different expectations which makes collaboration difficult.

Medium and small size industry or business is characteristic of Taiwan's economy (it composes 95% of all Taiwan's industry). The few large-scale industries are mainly family owned and run. For medium and small business/industry, the shortage of capital discourages investment in cooperative research. Furthermore, incomplete internal management systems and the short-sighted pursuit of profit has made them less willing to provide students with work placements. As for large industry, reluctance to collaborate can be explained in terms of the different cultures of university and industry.

The Different Cultures of University and Industry

The different cultures of university and industry are not unique to Taiwan. Tatel and Guthrie pointed out that the problems of cooperative research between academia and industry resulted from different values and expectations.

"the primary goals of academic institutions are education and training. University research is oriented toward the extension of fundamental knowledge. Such research is long-term and seldom directed at new commercial products or process. Freedom of communications and publication is at the heart of the academic research process." But "industrial research is directed at development

and commercialisation of new and improved products, process, and services. Because a competitive edge is critical to the success of commercial ventures, patents are important and results of research normally are proprietary and may not be published." Therefore, "many argue that the profit motive clashes with the principle of academic freedom." (23)

P.Szanton proposed a model to describe the differing perspectives among governments, academies and industry. The differences between academic and private cultures could be categorised as in Table 6-1.

Compromise between these different interests, orientations, goals and cultural perspectives are not easily accomplished. In addition, the idea of university has an influence on the collaboration. In Britain, anti-industrial bias prevailed from the Victorian period(24), which made British universities encounter more obstructions in the early stage of collaboration with industry. In the United States, even though universities started to cooperate with the community in agricultural fields from 1862 (the Morrill Act), the individual culture of each university has created a variety of attitudes towards industry and economic development. In encouraging collaboration between university and industry, a report of Social Research International mentioned that one of the difficulties in collaboration was the shortage of "supportive culture". It indicated that

Table 6-1 The Differences between Academic and Private Cultures

| | Culture | |
|--------------------------------|---|--|
| | Academic | Private |
| Driving interest | Respect of peers | Profit |
| Time horizon | Long | Short/medium |
| Mode of thought | Generic | Particular |
| Mode of work | Solo | Collaborative |
| Mode of expression | Abstruse, qualified | Simple/absolute |
| Desired outcome | Original insight | Commercial application |
| Preferred form of conclusion | Multiple solutions uncertainties emphasised | Profitable, uncertainties resolved |
| Concerned about feasibility | Small | Great |
| Stability of Interest in topic | Low | High |
| Confidentiality | Freedom to publish | Proprietary interest |

Source: Partly adopted from Peter Szanton (1981), Not Well Advised, New York, Russell Sage Foundation, P.64.

"every institution has its own culture - a set of attitudes developed over the years - that will shape its involvement in economic development. Many academies may not assign a high priority to economic developments. Others may not believe that service is an appropriate mission for the university. Such attitudes - particularly if they come from the top and prevail throughout the campus - would obviously constrain involvement in economic development(25)."

In general, those institutions which have strongly defined service missions or have defined economic development as a major part of their mission are mostly likely to involve themselves in economic development. These institutions are likely to have good cooperative relationships with industry.

For many European countries, Cerych argued that higher education was considered an education and training for the civil service, the professions, and in earlier times the church, so that graduates were disinclined to take up jobs in industry. Industry was lacking in prestige. Even though the situation has been changing recently, owing to the labour market pressures of growing graduate unemployment or owing to lack of employment opportunities in traditional sectors, this ideology still exists in universities and among students, which discourages their cooperation with industry(26).

The different interests and cultures of university and industry in Taiwan are more confused. As suggested earlier, those universities which accepted a service mission for society would be more easily involved in economic development. Taiwan's universities are still uncertain about what role they should play in modern society. The

service mission of universities has not been popularly recognised in Taiwan.

On the other hand, Taiwan's industries are very demanding. They expect that graduates from university will be immediately useful. They treat universities and colleges as vocational training centres, thus they do not put much effort into organising in-service training. In addition, they expect a university curriculum directly applicable to the work place, and complain that graduates know nothing about the real world of work. For employers the duty of universities and colleges is to make students acquainted with their future jobs. Industry scarcely does anything to help educational institutions. Given this mentality, it is not easy to build a cooperative relationship between university and industry. The head of the faculty of management in Taiwan University, condemned the attitude of industry in sitting idle and enjoying the fruits of others' work. He asked for more cooperation between university and industry to cultivate highly qualified manpower and reduce the difficulties of graduates employment(27).

The Traditional Ideology of Education

The long-standing division between the world of work and academic institutions is another block to their collaboration. The ideas of social hierarchy derived from Confucius - gentry, farmers, craftsmen and businessmen - are still profoundly influential among teachers and students in universities. Preparation of students for future careers has already provoked much argument about whether university curricula should be vocation-oriented, quite apart from the question of cooperative links with industry. In addition, traditional attitudes of teachers and parents are hostile to

pupils and children being involved in activities off campus. Education (academic life) itself is thought a vehicle for upward mobility(28), therefore it is not necessary for students to think about future career whilst they are in university. There is a popular belief amongst students that once they are graduated the world will be their oyster. (for further exploration of the attitudes of university students towards future jobs see chapter 7).

The Shortage of Supportive Policies

The shortage of supportive policies from government is thought to be an obstacle to starting collaboration between university and industry. Economic sectors of government did not actively encourage public industry to cooperate with universities, which in turn discouraged private industry from taking initiatives. Centrally directed economic policies have already led private industry to follow the strategies adopted by public industry. On the other hand, the Ministry of Education did not encourage universities to become involved actively in economic affairs. The pride of intelligentsia has some influence on this attitude and the dilemma between the economic and cultural functions also made the Ministry reluctant to encourage this cooperation actively.

6.8 Conclusion

Collaboration between university and industry is a new practice. It developed under the presumption that higher education should be closely related to economic and industrial development. When the employment problems of graduates became serious in the 1970s, the collaboration was thought a way to reduce the difficulties of employment.

However, owing to different cultures and interests of university and industry, the effect of collaboration differs considerably between individual cases.

As collaboration is economically orientated, those who approved of traditional values of higher education held that it is unnecessary. In Taiwan, collaboration has not been popular. One reason is the lack of enthusiasm for it from both universities or industry. The long-standing separation of university from the labour market had made the two sides indifferent to each other. Traditional educational ideas which looked down business further prevents cooperation with business and industry. Therefore university students have not many opportunities to explore to the real work environment before graduation. When work experience is one of important requirements of employers in recruiting new entrants, those graduates who have just left universities or colleges will find difficulties in obtaining jobs. The requirements of employers in hiring graduates and the job aspirations of graduates seem not to match up. The lack of effective collaboration between industry and university in Taiwan cannot be blamed entirely on universities. Industry has taken few initiatives while government, despite providing the general framework for such links, has not promoted them very actively. It has been easy for universities to abstain from industrial connections. But this is still symptomatic of traditional views of higher education. If universities were more committed to finding satisfactory employment opportunities for graduates, they would make stronger efforts to initiate and sustain links with industry.

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- (10) Northeast-Midwest Institute (ed.) (1988) op.cit.
- (11) SRI International Public Policy Centre (1986) op.cit, P.52.
- (12) Tatel, D.S. and R.C. Guthrie (1983) op.cit, P.25.

- (13) Branscomb proposed that direct government intervention in university-industry research interaction will not be necessarily effective. He indicated that "the current administration's approach reflects the fact that effective university-industry research interaction will be based on the perceived worth of the university work by industry - not on initiatives originating in Washington by third parties." in "America's Rising Research Alliance-Stronger Ties between Industry and University Call for a Clear Understanding of Roles", American Education, April, 1984, PP.43-46, P.44.
- (14) adopted from the Committee for Educational Planning (1980) Chia Chiang Chuan Ke Chi Kao Chi Chih Hsiao Chien Chiao Ho Tso Yu Hsiao Tse Lueh Chih Yen Chiu (Research on the Strategies of Promoting the Collaboration between Junior Colleges, Vocational High Schools and Industry), Taipei, Ministry of Education, PP.22-23.
- (15) When the Republic of China moved to Taiwan, a system of central government and local government was developed. There are many overlaps of administration between these two levels of governments, because central government only had Taiwan to control since 1949. Local government in this situation has relatively little power.
- (16) Except those students who studied in medicine, pharmacy and rehabilitation medicine. The other 134 graduates were from various disciplines, such as law, economics, horticulture, agricultural economics, history, Chinese Literature, chemistry, mathematics, international trade, mechanical engineering, electronic engineering, accounting and German.
- (17) Adopted from the Committee for Educational Planning (1980) op.cit., P.34.

- (18) Science-based Industry Parks (1987) Ke Hsueh Kung Yeh
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- (19) Hepatitis is a widespread disease in Taiwan. That is
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CHAPTER 7 GRADUATES' AND UNDERGRADUATES' OCCUPATIONAL ASPIRATIONS AND THE WORLD OF WORK

Those students who had work experience through collaborative programmes between university and industry have more realistic job aspirations than those who did not have such opportunities. Their chances of obtaining jobs were also increased. According to a survey conducted by the National Youth Commission, 85.7% of those who attended collaborative programmes said they made it easier to find jobs(1). However, the majority of university students in Taiwan had no such experience before entering the labour market. Their concept of the world of work was vague and their attitudes towards employment very unrealistic. Are these the reasons why graduates have difficulties in finding jobs?

These difficulties of graduates can be discussed in terms of the mentality and attitudes of university students toward employment. How did traditional ideas of education influence their attitudes to preparation for work and job aspirations? Are these attitudes becoming an obstacle for graduates adjusting themselves into the world of work? Or should the emphasis be on government's effort to promote the view of the economic function of higher education, and so change students' attitudes? How far have employers failed to communicate or encourage realistic aspirations among students?

This chapter will explore these difficulties beginning with graduates' and undergraduates' preparation and aspirations for jobs. Then the requirements of employers will be investigated to see how far they diverge from

graduates' aspirations. Several surveys conducted by public and private institutions since 1983 may be used to examine graduates' attitudes to jobs and employer's expectations of new entrants. The discrepancies between graduates' job aspirations and the real world of work then will be considered. The question of the influence of traditional educational ideas and of the failure to communicate an "economic" view can then be faced.

7.1 Preparations for Jobs

According to the survey of Kuan Li Cha Chih (Management Journal) in 1985, the majority of university students half a year before graduation said they had not done anything to prepare for jobs. The survey questioned students in twelve public and private universities about their attitudes to employment. Among 1,439 respondents, 36.82% said they had considered careers but have not prepared for them; 10.72% said they would not consider them until graduation, and 2.72% replied that they never thought about their occupational future(2). It showed 50.26% of university students had not prepared for future jobs. For professor W.H.Chou in Chengchi University, it was a peculiar phenomenon:

" to plan and prepare for one's job and future is supposed to be done carefully and elaborately, but more than half of university students did not do this for their future, isn't it strange?" (3)

In the study on "The relationship between occupational choice, career adjustment and career development of graduates", H.J.Yang and M.C.Chu also asked graduates about their preparations for work whilst they were in university or colleges. Four aspects were investigated in the study:

attitudes towards employment; understanding of probable future jobs; studying of relevant practical subjects and skills; and finally acquisition of work experience before graduation. Among 737 respondents, 42.7% said they did not study relevant practical subjects and 76.3% never learned practical skills (Table 7-1)(4). Most undergraduates in Taiwan are not worried about their future jobs and scarcely prepared for them.

This phenomenon is understandable. Firstly, receiving higher education is the only purpose of life for many students. They seldom considered other purposes during their educational careers. After completing secondary education, university or college education became the only objective. Once they achieved this aim, they were lost and had no idea about how to prepare for job. Secondly, universities and colleges were thought by students as places for pleasure and relaxations. After passing the strenuous entrance examination for universities and colleges, unsurprisingly most students started to relax. For them it was too early to consider jobs. Thirdly, the family was considered a protection against rainy days by most students. When a graduate became unemployed and could not make a living, his family would provide what he needed for subsistence.

These attitudes may also be explained by the traditional ideology of education. The pride of the intelligentsia encouraged students to think that preparation for jobs was unnecessary. Once they finished university education, their social status was raised and the jobs would be waiting for them. Practical knowledge and skills, according to Confucian ideology, were not important. This belief was

Table 7-1 Graduates' Preparations for Job (No. & %)

| | Studying relevant subjects | | Learning relevant skills | |
|-------|----------------------------|------|--------------------------|------|
| | No. | % | No. | % |
| Yes | 422 | 57.3 | 175 | 23.7 |
| No. | 315 | 42.7 | 562 | 76.3 |
| Total | 737 | 100. | 737 | 100. |

Source: Yang, H.J. & C.M. Chen (1986) The Relationship between Occupational Choice, Career Adjustment and Career Development of Graduates of Universities and Colleges, Taipei, National Youth Commission.

accepted by some university students and their parents. For them universities were places for higher learning and cultivation of virtue without any association with future job.

7.2 Job Aspirations

On the basis of five surveys of graduates between 1983 and 1985, the occupational aspirations of graduates in Taiwan may be placed in three categories. The first concerns graduates' personalities, interests and ambitions. They expect jobs to meet their interests and aptitudes, to develop their ideals and to realise their ambitions. The second category relates to students applying their knowledge and skills to work and making full use of their specialisations. The third one relates to the benefits and welfare a company (or an employer) could provide for employees such as high salary, promotion prospects, in-service training, good working environment and interpersonal relationships (see Table 7-2).

The sequence of the ten priorities listed by graduates in choosing a job differs in the five surveys. However, four items - applying knowledge and skills to work, job consisting with interests, high salary and promotion prospects - were high priorities in all the surveys. The application of knowledge and skills to work was thought important in choosing a job. However, according to the surveys of 1979 and 1983 graduates conducted by the National Youth Commission, the number of graduates who could not apply what they learned to work was quite large. In the 1980 report, among 4,384 university graduates, 45.19% said their work was "partly related" and had "no relation" to

Table 7-2 The Occupational Aspirations of Graduates and Undergraduates (in order of preference)

A. National Youth Commission, Survey of Graduates of 1983 (7,827 graduates), 1986 Report

1. Applying knowledge and skills to work
2. High salary
3. Promotion prospects
4. Suitable position
5. Consistent with personal interest
6. Security of job
7. Realising ambitions
8. Full of challenges
9. Adequate location (firm or company)
10. Normal office hours

B. National Youth Commission, Survey of graduates of 1942 to 1982 (737 graduates), 1986 Report

1. Consistent with personality
2. Relevant to specialisation
3. Making full use of specialisation
4. Consistent with interest
5. Stability of work
6. High salary
7. Providing in-service training
8. Promotion prospects
9. High creativity
10. Contribution to society

C. Kuan Li Cha Chih (Management Journal), Survey of undergraduates (1,439 students), 1985

1. Opportunities for further learning
2. High salary
3. Realising ambitions and consistent with personal interest
4. Promotion prospects
5. Good management and welfare system
6. Applying knowledge and skills to work
7. Stability of work
8. Good work atmosphere and interpersonal relationship
9. Adequate location
10. Size and reputation of company

(continued)

(continued Table 7-2)

D. Kuan Li Cha Chih (Management Journal), Survey of undergraduates, 1984

1. Opportunities for further learning
2. Realising ambitions
3. High salary
4. Good work atmosphere and interpersonal relationship
5. Stability of work
6. Applying knowledge and skills to work
7. Promotion prospects
8. Adequate location
9. Good management and welfare system
10. Size and reputation of company

E. Kuan Li Cha Chih (Management Journal), Survey of undergraduates, 1983

1. Applying knowledge and skills to work and consistent with personal interest
2. Adequate location and good work environment
3. Promotion prospects
4. Stability of work
5. High salary
6. Full of challenges
7. Normal office hours
8. Good management and welfare system
9. Good interpersonal relationship
10. High position

- Sources: (1) The Survey on Employment of 1983 Graduates of Universities and Colleges, Taipei, National Youth Commission, May, 1986.
- (2) Yang, H.J. & C.M. Chen (1986) The Relationship between Occupational Choice, Career Adjustment and Career Development of Graduates of Universities Colleges, Taipei, National Youth Commission.
- (3) "Pi Yeh Sheng Chiu Yeh Tai Tu Tiao Cha" (The Survey on Attitudes towards the Employment of Undergraduates of 1985), Kuan Li Cha Chih, (Management Journal), No.131, May, 1985.

what they learned in university or college. (refer Table 2-14). In the 1986 report, those answered "little relation" and "no relation" between job and field was 41.83% (refer Table 2-15). It indicated that nearly half of graduates could not fully apply the knowledge and skills acquired in universities to their work.

1987's survey showed that among graduates of 1984, a high proportion of those who studied law (49.2%), humanities (44.9), and agriculture (41.6) had jobs with little and no relation to their specialisations. For the graduates of 1985, law, humanities, commerce and business departments also produced many graduates who gained jobs with little relevance to their studies. The percentage of those who thought there was little and no relation between job and specialisation was 55.2 among law, 38.7 among humanities and 38.3 among commerce and business graduates (Table 7-3).

High salary was also expected by university students. Influenced by the perception that they were the future elite on the basis of the results of their entrance examinations, university students and their parents expected high returns on their investment in education. They neglected the fact that the over-expansion of higher education had already reduced likely future salaries of graduates. When graduates entered the labour market and found salaries did not meet their expectations, they rejected those jobs. In its 1986 report, the National Youth Commission described the reasons of graduates dissatisfied with their jobs. Among ten reasons - low salary, no opportunity for advanced learning, no possibility to realise ambitions, inconsistency with personal interests, inappropriate leadership, lack of promotion prospects, insecurity of job, poor welfare

Table 7-3 Relationship of Work of First Degree Recipients to Major Field of Study in Taiwan (%)

| | Graduates of 1984 | | | | | Graduates of 1985 | | | | |
|---------------------|-------------------|------|------|------|------|-------------------|------|------|------|------|
| | (1) | (2) | (3) | (4) | (5) | (1) | (2) | (3) | (4) | (5) |
| Humanities | 25.2 | 16.0 | 13.9 | 25.4 | 19.5 | 22.9 | 19.5 | 18.8 | 19.8 | 18.9 |
| Science | 31.2 | 23.8 | 11.3 | 14.1 | 19.6 | 33.8 | 31.5 | 11.1 | 9.3 | 14.3 |
| Law | 19.9 | 15.5 | 15.4 | 24.3 | 24.9 | 15.9 | 17.0 | 12.0 | 36.0 | 19.2 |
| Commerce & business | 18.3 | 26.1 | 17.4 | 26.2 | 11.9 | 23.1 | 24.4 | 14.3 | 24.2 | 14.1 |
| Medical sciences | 82.4 | 9.0 | 4.3 | 4.3 | 0.0 | 87.0 | 8.1 | 1.4 | 3.1 | 0.4 |
| Engineering | 28.0 | 30.0 | 17.0 | 17.7 | 7.1 | 34.3 | 31.0 | 14.1 | 14.9 | 5.7 |
| Agriculture | 30.2 | 21.0 | 7.2 | 14.5 | 27.1 | 37.9 | 16.4 | 13.7 | 16.3 | 15.8 |
| Education | 59.7 | 26.3 | 7.1 | 4.3 | 2.6 | 70.2 | 22.5 | 2.8 | 4.3 | 0.2 |

(1): directly related; (2): closely related; (3) partly related;
(4): little related; (5): no relation.

Source: The Survey on Destinations of 1984 and 1985 Graduates of Universities and Junior Colleges, Taipei, National Youth Commission, June, 1987.

systems, unsuitable office hours and bad work environment (5) - the low salary was the most important reason for dissatisfaction among graduates.

In my own survey of a number Taiwan and Tanchiang University graduates of 1984 and 1986, among four choices - "very satisfied", "satisfied", "acceptable" and "not satisfied", most respondents thought their salaries was "acceptable" (44.9%) and about a quarter of them felt "not satisfied" (refer Table 2-18). I found a difference in the degree of satisfaction in salaries between public and private university graduates. For the graduates of the private Tanchiang University 54.5% said their salaries were "acceptable" and 18.2% were "not satisfied". But for graduates of the public Taiwan University 39.8% were "acceptable" and 27.7% felt "not satisfied".

My findings may be explained partly by a survey of the Kuan Li Cha Chih (Management Journal) in 1985, which showed differences in expectations of salaries between graduates of public and private universities. 64.3% public university students expected their salaries to start between NT\$12,500-20,000, but 59.6% private university students thought reasonable starting salary would be between NT\$10,000-15,000 (Table 7-4)(6). Not only did private university students expect lower salaries than those in public universities, but private university graduates seemed more easily satisfied with actual salaries. It implies that lower salary expectations of private university graduates are realistic. It also shows the hierarchy of the prestige among universities, which influenced not only employers' but also graduates' self-perceptions. This can be explained by the traditional idea of education for social mobility,

Table 7-4 Expected Starting Salary of Public and Private University Students (Sample: 1,439)

| | | Public university students | Private university students |
|----------|-----------------|----------------------------|-----------------------------|
| Currency | | % | % |
| below | 8,000 | 0.1 | 0.7 |
| | 8,000 - 10,000 | 1.6 | 9.3 |
| | 10,000 - 12,500 | 14.4 | 30.2 |
| | 12,500 - 15,000 | 31.8 | 29.4 |
| | 15,000 - 20,000 | 32.5 | 20.4 |
| | above 20,000 | 19.3 | 9.9 |

Source: adopted from the figures of the Harvard Business Management Counselling Company, Kuan Li Cha Chih (Management Journal), No.131, May, 1985, P.35.

achievement of the highest rung on the educational ladder will give one the highest social status. Public universities are superior to private ones by the higher standard they require in the united entrance examination. Therefore, public university graduates and their employers expect they will be rewarded with higher starting salaries and high social status.

Further analysis indicates that the average salary of 1984 graduates (eight months after graduation) was NT\$14,701, and of 1985 graduates was NT\$15,920 (Table 7-5). This was not far from students' expectations but the divergence become more pronounced the greater the period of time after graduation. After eight months and one year eight months of graduation, the average salary of graduates of 1983-1985 was still within their expected starting range. It should be noted that normally the salary of new entrants is supposed to be increased after three months and again after one year. The extent of dissatisfaction of graduates with their salaries after the longer period of time is understandable.

With regard to the prestige of occupation, C.Y.Wen and H.C.Chang in a pilot study of the relationship between occupational prestige and the value of these occupations to society indicated the administrative and managerial personnel have the highest popular status. Wen and Chang asked 195 university students of various disciplines at the National Taiwan University to evaluate the prestige of five occupational categories (professional, administrative and managerial personnel, white collar, skilled and unskilled workers). The hierarchy of occupational prestige these students identified was that professional workers were

inferior to administrative and managerial personnel but superior to white collar, skilled and unskilled workers (7). The reason why the administrative and managerial personnel have higher prestige than professionals can be explained by the conventional ideology of Confucianism. As the aim of education in ancient China was to equip a person with classical literature to become a governmental official. An official could enjoy high social prestige and be rich. This idea still exists in Taiwanese society. That is why university students would prefer administrative and managerial jobs, which seem to them equal to those official posts in the ancient times. However, as these administrative and managerial jobs are limited in number and sometimes could not obtain through formal channel of recruitment, graduates entering the labour market with aspiration of such jobs were often disappointed.

7.3 The Reasons Graduates Changed Jobs

The reasons graduates changed jobs may be a way illuminate the gap between occupational aspirations of graduates and their actual work. From three surveys of 1983-1985 graduates, the frequency of graduates changing jobs and their reasons were listed in Table 7-6, Table 7-7 and Table 7-8. Within the first year after graduation (male graduates after military service), the percentage of those who changed jobs was below 30% for 1983 graduates, below 40% for 1984 and 1985 graduates. After one year and eight months, the percentage increased to more than 50% of 1983 and 1984 graduates (Table 7-6). In my own survey of 1986 female and 1984 male graduates of Taiwan and Tanchiang University graduates, 43.4% changed jobs one year after graduation. These figures indicate that graduates tried to adjust

Table 7-6 The Frequency of Job Changes of Graduates
(No. & %)

| | Never changed | Changed once | Changed twice | Changed more than twice | Total |
|-----------------------|------------------|-----------------|------------------|-------------------------------|--------|
| Graduates | | | | | |
| 1983 | | | | | |
| (10 mths) | 1,953 | 523 | 158 | 91 | 2,725 |
| | 71.67 | 19.19 | 5.80 | 3.34 | 100. |
| 1983 (1yr. 8 mths) | | | | | 15,499 |
| | 43.8 | 33.0 | 14.2 | 9.0 | 100. |
| 1984 | | | | | |
| (8 mths) | | | | | 15,499 |
| | 63.6 | 23.9 | 9.1 | 3.4 | 100. |
| 1984 (1yr. 8 mths) | | | | | 15,031 |
| | 45.9 | 33.9 | 12.6 | 7.6 | 100. |
| 1985 | | | | | |
| (8 mths) | | | | | 14,436 |
| | 62.1 | 27.2 | 7.0 | 3.7 | 100. |

() : Time of graduation

- Sources: (1) The Survey on Employments of 1983 Graduates of Universities and Colleges, Taipei, National Youth Commission, May, 1987.
 (2) The Survey on Employments of 1983 and 1984 Graduates of Universities and Colleges, Taipei, National Youth Commission, June, 1986.
 (3) The Survey on Employments of 1984 and 1985 Graduates of Universities and Colleges, Taipei, National Youth Commission, June, 1987.

themselves to their jobs when they started the careers but one year later were more likely to change jobs.

The reasons graduates changed their jobs were also indicated in these surveys. Table 7-7 shows that among sixteen reasons graduates of 1983 changed their jobs ten months after graduation, the top five reasons were: low salary, no chance for realising ambitions, inconsistency of the job with personal interests, lack of promotion prospects and no possibility to apply their specialisation. In the surveys of graduates of 1983 (one year and eight months after graduation), 1984 (eight months and one year eight months after graduation) and 1985 (eight months after graduation), excluding those who had been fired, among the other nine reasons - inconsistency with specialisation, unsuitable work post, lack of promotion prospects, low salary, poor welfare systems, lack of security in working environment, unsuitable working hours, inconsistency with interests and bad interpersonal relationship - the lack of promotion prospects, inconsistency with personal interests, low salary and poor welfare system were always thought by graduates the three most important reasons for leaving their jobs (Table 7-8).

These results coincide with graduates and undergraduates' job aspirations. They expect jobs to develop their ambitions and to carry promotion prospects, and at the same time have higher salaries than those for graduates from lower educational levels. Once they entered the real world of work, they found most jobs did not realise their ideals, they became disappointed and changed jobs without much consideration. The point here is not to persuade graduates to give up these positive attitudes towards jobs (such as

Table 7-7 Reasons of Job Changes of Graduates (10 months after graduation in 1983)

| | No. | % |
|--|------|--------|
| Being fired | 36 | 1.33 |
| Unsuitable work hours | 156 | 5.77 |
| Interest change | 63 | 2.33 |
| Inadequate location of company | 140 | 5.18 |
| Inconsistency with personal interests and specialisation | 279 | 10.32 |
| Lack of learning opportunities | 252 | 9.32 |
| Bad interpersonal relationship | 53 | 1.96 |
| Bad work environment | 212 | 7.84 |
| Low salary | 330 | 12.20 |
| Poor welfare system | 136 | 5.03 |
| Inadequate leadership | 188 | 6.95 |
| Lack of promotion prospects | 183 | 6.77 |
| Difficult to realise ambitions | 325 | 12.02 |
| Unsuitable position | 78 | 2.88 |
| Unable to apply specialisation | 225 | 8.32 |
| Others | 48 | 1.78 |
| Total | 2704 | 100.00 |

Source: The Survey on Employments of 1983 Graduates of Universities and Colleges, May, 1987, Taipei, National Youth Commission.

Table 7-8 Reasons of Job Changes of Graduates (8 months and 1 year 8 months after graduation in 1983, 1984, 1985) (%)

| | 1983 (1) | 1984 (2) | 1984 (1) | 1985 (2) |
|--|-------------|-------------|-------------|-------------|
| Being fired | 5.1 | 3.7 | 7.9 | 5.6 |
| Inconsistency with specialisation | 11.5 | 15.4 | 10.4 | 13.7 |
| Inadequate location of company | 7.2 | 5.6 | 6.8 | 5.5 |
| Lack of promotion prospects | 32.5 | 29.2 | 27.1 | 26.1 |
| Low salary and poor welfare system | 16.3 | 13.7 | 12.0 | 11.1 |
| Lack of security and hygiene | 1.8 | 2.1 | 1.2 | 2.6 |
| Unsuitable work hours | 3.6 | 4.0 | 5.0 | 5.1 |
| Inconsistency with personal interests | 14.1 | 16.3 | 9.9 | 12.8 |
| Difficult to get along with colleagues | 1.4 | 3.7 | 1.9 | 2.5 |
| Others | 6.5 | 6.4 | 17.8 | 15.1 |
| Total no. of respondents | 23,656 | 17,971 | 24,427 | 17,978 |

(1): 1 year and 8 months after graduation

(2): 8 months after graduation

Sources: (1) The Survey on Employments of 1983 and 1984 Graduates of Universities and Colleges, Taipei, National Youth Commission, June, 1986.
 (2) The Survey on Employments of 1984 and 1985 Graduates of Universities and Colleges, Taipei, National Youth Commission, June, 1987.

promotion prospects, realisation of ambitions) but to understand the gap between graduates' job aspirations and the reality.

7.4 The Attitudes and Requirements of Employers in Recruiting Graduates

The attitudes of employers in recruiting new entrants reflected the ideology they have. If their attitudes towards the function of higher education and their ideal graduates different from that of graduates themselves, then difficulties of graduates in finding jobs or realising their ambitions can be expected.

Two surveys of employers and senior managers have investigated the requirements of employers in recruiting graduates. Tien Hsia (The Journal of the World) distributed questionnaires to five hundred public and private production businesses, fifty large financial companies, service businesses and those businesses in the Hsin-Chiu Science-based Park. The questionnaire were returned completed by 189 employers and senior managers giving their opinions on the ideal new entrant. Another survey conducted by Kuan Li Cha Chih (Management Journal) was on a smaller scale. Ten large private businesses/corporations/companies were investigated about their requirements of new entrants. Both surveys were conducted in 1985. Those characteristics and qualifications of graduates demanded by employers and managers are listed in Table 7-9.

There were three main characteristics employers were concerned about when recruiting new entrants. The first was graduates' qualifications and experience. Educational

Table 7-9 The Requirements of Employers in Recruiting New Entrants (in order of preference)

| Tien Hsia (The Journal of World) (May, 1985) | Kuan Li Cha Chih (Management Journal) (June, 1985) |
|--|--|
| 1. Specialised knowledge | Virtue |
| 2. Virtue | Motivation to learn |
| 3. Work experience | Endurance and persistence |
| 4. Educational qualifications | Ability to respond to challenges |
| 5. Good, acceptable appearance | Optimistic, active personality |
| 6. Sex (male preferred) | Good educational records |
| 7. Not planning to go abroad within two years | Analytical ability |
| 8. Good educational records | Professional skills |
| 9. Extra-curriculum societies | High creativity |
| 10.Origins of family | Loyalty |

Sources: (1) Tien Hsia (The Journal of World), June, 1985.
 (2) Kuan Li Cha Chih (Management Journal), No.132, June, 1985.

qualifications and records, the specialised knowledge and skills of graduates were considered very important. Previous working experience was also emphasised by employers. In an earlier survey of 478 private and public companies in 1975, H.C.Kao had already found employers preferred those new entrants with relevant working experience when recruiting professional and technological, managerial personnel or even low-level managerial staff(8). These requirements have not changed. It may explain why graduates have difficulty in finding a suitable job when they leave universities or colleges without any working experience.

There may be two reasons why employers preferred new entrants with working experience. First, in-service training has not been common in Taiwan. If a new entrant has no working experience, he will spend lot of time learning on the job. This was thought by employers as time-wasting and inefficient. The majority of employers in Taiwan wanted graduates who could be used immediately after graduation. Secondly, if a company had in-service training, those who had completed the training programme and benefited from it would probably be "head hunted" by another company offering a higher salary. This also made employers consider that hiring graduates with working experience would save expenditure on in-service training.

It is not surprising to find that the second aspect concerning employers was the personal characteristics of new entrants, such as personality and virtue. "Loyalty" was thought an important trait. Employers were tired of staff being "head hunted", making the company unable to accumulate experienced staff and waste time in training new replacement

staff. Meanwhile those who were hired by other companies at higher salaries probably would take customers and secret techniques with them. This could cause serious damage to the original company. Therefore, the emphasis on "loyalty" is a powerful characteristic of Taiwan's employment market. A conflict exists between employers and employees. Employers asked their staff to be loyal to the company and devote all their knowledge and skills to work just like Japanese companies did. However, they did not provide the good welfare system, promotion prospects and security of employment to employees offered by Japanese companies.

In addition to "loyalty", the "motivation to learn", "analytical ability", "creativity", "endurance and persistence" and "optimistic and active traits" were also admired by employers.

The third aspect of employers' requirements of new entrants are some inalterable traits, such as "sex", "physical appearance" and "origins of family". These requirements arise from Taiwan's culture and politics, which are not the concern of the thesis.

Given these requirements, the economic function of higher education has been largely approved by employers. Most of them ask for graduates equipped with specific knowledge and skills and who can work immediately after being recruited. Therefore, they expect the curriculum of higher education to be directly related to the content of the job. This ideology can be analysed from two aspects. First, the existence of traditional Confucian ideas which looked down on occupations other than governmental posts, thus employers are less influenced by such ideas than those teaching in

academics. Secondly, the economic development priority of government since Taiwan started export promotion industry had encouraged employers to emphasise the need for specific knowledge and skills in employees.

7.5 The Gaps between Graduate's Aspirations of Occupation and the World of Work

The discrepancies between graduates' aspirations of occupation and the world of work could be found in the extent of job satisfaction experienced by graduates. Table 7-10 shows that among 1983 graduates (ten months after graduation), 41.13% of them dissatisfied with their jobs. More private university graduates were dissatisfied with their jobs than those from public universities (43.27% to 38.09%). The reasons given by dissatisfied graduates were: "low salary", "no opportunities for learning", "instability of job", "poor welfare system", "inappropriate office hours", "bad work environment", "unsuitable work post", "unsuitable position" and "bad interpersonal relationship" (9). They were about the same as those reasons graduates gave for changing jobs.

The survey conducted by the Kuan Li Cha Chih (Management Journal) gave some employers' explanations of why their employees felt dissatisfied. For example, with regard to "opportunities for learning", there is discrepancy between the concept of "learning" held by graduates and that by employers. For graduates, "learning opportunities" should be provided whenever they came across difficulties in doing the job. Appropriate curriculum and qualified instructors were demanded by them when they could not solve problems.

Table 7-10 The Extent of Job Satisfaction of Graduates of Public and Private Universities of 1983 (No. & %)

| | Very satisfied | Satis- fied | Not satisfied | Very dissa- tisfied | Total |
|---------|-------------------|----------------|------------------|---------------------------|--------------|
| Public | 68 6.07 | 626 55.84 | 399 35.59 | 28 2.50 | 1121 100. |
| Private | 76 4.76 | 830 51.97 | 647 40.51 | 44 2.76 | 1597 100. |
| Total | 144 5.30 | 1456 53.57 | 1046 38.48 | 72 2.65 | 2718 100. |

Source: The Survey on Employments of 1983 Graduates of Universities and Colleges, Taipei, National Youth Commission, May, 1987, P.99.

In addition, studying abroad for further knowledge and skills was eagerly desired by graduates. However, on the employers' side, the meaning of "learning" could be broader, not only acquiring specialised knowledge and skills, but also understanding the procedure of work and getting along with colleagues and customers(10).

With regard to graduates' demand for "promotion prospects", "realisation of ambition" and "consistency with personal interests" and "high position", employers complained graduates expected too much when they started their careers, and had no patience with basic training. Many of them rejected work in factory and lower level positions when employers thought this training would be helpful for their further positions. Employers also mentioned overemphasis on individualism and demanding too much as defects of graduates(11).

7.6 Conclusion

The first conclusion of this chapter is not surprising in view of the analysis of the earlier parts of this thesis. Graduates' views about themselves and their education leads them towards aspirations to administrative and managerial positions rather than to more professional and technical occupations. But this does not mean that graduates reject a utilitarian university curriculum. Indeed they have strong aspirations to apply the knowledge and skills learned at university in their future work.

Lack opportunities to apply their specialisations was an important reason for graduates changing jobs. It also suggests that students would like the university curriculum

to be related to the content of jobs. Employers would like to take on graduates who could be immediately useful after graduation. They expected the university curriculum to have a vocational orientation. University curriculum could not satisfy employers' expectations, and graduates found it difficult to find jobs, especially graduates from non-vocational disciplines. Even though traditional and non-utilitarian aims of university education were supported by university teachers, it was graduates in the non-vocational subjects who experienced particularly the lack of relevance of a liberal education to industrial occupations.

To bridge the gap between employers' requirements and graduates' expectations and to reduce the difficulties of graduates in finding jobs, careers guidance and counselling services were set up in universities and colleges. However, as the conflict between the economic and traditional ideas of higher education are serious even in campuses, the effectiveness of careers services is put in doubt.

Notes and References

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CHAPTER 8 CAREERS GUIDANCE AND COUNSELLING IN UNIVERSITIES AND COLLEGES

In previous chapters, the conflict between the economic and cultural views of the functions of higher education have been explored as they influence government manpower planning, admission policies in higher education, collaboration between industry and universities and graduates' occupational aspirations. Careers guidance and counselling in universities and colleges also provide a valuable case for study of this conflict. The importance given to careers guidance and counselling, the development of careers education, and the means of integrating careers education into the university curriculum are all areas in which different views of the purpose of higher education are likely to influence outcomes. Endeavours to provide careers guidance and education seems to have been successful neither in the West (especially Britain and U.S.A.) nor in Taiwan. So a comparative dimension provided by examination of studies of western countries may help understanding of problems in Taiwan.

8.1 The Conflict between Careers Guidance and Counselling and Traditional Function of Higher Education

Careers guidance and counselling in universities do not easily have significant effects on reducing graduates' employment problems for two reasons. First, higher education, particularly in universities, has been seen by educationalists and teachers to be concerned solely with academic disciplines. Careers guidance and counselling (even careers education) have been thought to be non-academic and non-intellectual. Secondly, in those colleges

and faculties which are vocation-orientated, the main objectives have been to develop students' specialisations through the content of the curriculum. Careers guidance or careers education has had a subordinate status. Those who are engaged in careers guidance and counselling services have worked hard but without success to claim greater significance in higher education.

Some researchers have seen the non-academic and non-intellectual characteristics of careers guidance and counselling in universities as the major obstacle. C.Ryan and R.J.Drummond found students in colleges had little and limited help from careers services in making their occupational choices. They indicated two reasons. The first is the attitude of college and university faculties towards careers education.

"the attitude of some college and university faculty regarding concepts such as career education, vocational education, career development, and career guidance is to view them as anti-intellectual." (1)

The second and related reason that, faculty members continued to operate in "a business as usual" attitude to the main curriculum when they developed add-on career guidance programmes. These services had no impact on the mainstream curriculum.

In exploring D.E.Super's developmental theory of vocation including the growth stage, the exploration stage, the establishment stage, the maintenance stage and the decline stage, A.G.Watts pointed out three dysfunctional aspects of effective vocational preparation in Britain. First, for many universities and polytechnics, providing vocational exploration was not regarded as any real part of their function.

"indeed, some (higher education institutions) regard it as hostile to their objectives. Such exploration as is officially provided for is in terms of academic subject-content, and even this is restricted in most institutions by specialised courses and limited opportunities for course transfer. Even when courses are vocational in nature, they frequently presuppose prior vocational commitment on the part of the students, and do not provide the flexibility which would permit students to 'taste' the vocational experience in an open and exploratory way." (2)

Secondly, Watts found universities and colleges had a very different value system from most other work environments. Thirdly, these institutions "conceal students from adult role-models against which they can evaluate themselves from university or polytechnic teachers" (3).

In order to explain the conflict between liberal and vocation-orientated higher education, R.J.Nash and K.P.Saurman argued that there is a learning-earning dichotomy. Higher education has been faced with the dilemma of whether to move more strenuously and systematically in the direction of career preparation, or to reassert more vigorously its commitment to academic integrity and the value of liberal learning. When the labour market becomes less favourable for graduates, and the enrolments decrease, higher education institutions react in two ways.

"Some are diligently exploring curricular and instructional alternatives in order to provide students with a useful, occupationally related undergraduate education. Other institutions are attempting to highlight what they perceive to be their only mission - the no-nonsense delivery of liberal education, with exclusive emphasis on the intellectual content of arts, humanities, and sciences, rather than on career implications." (4).

In those faculties which strongly insist on the value of liberal education, Nash and Saurman felt that efforts to bridge student concerns about employment with the

traditional goals of higher education were seen "nonacademic". As a result, careers education became the sole responsibility of professional student guidance workers.

In order to give careers guidance and counselling equal significance with traditional values in universities and colleges, those engaged in this field have tried hard to promote its status on campus in the United States. The rationale they suggested is based on the following assumptions. First, higher education inescapably responds to the needs of economy. Secondly, higher education should prepare a person not only for life but also for a living. Thirdly, careers education therefore should not only help students find jobs but should encourage also student's self-awareness of their own qualities and awareness of the opportunities open to them. Nash and Saurman contended that "It is our position that the primary function of higher education is not simply to help students find jobs, or to train them for the technical skills to fill narrow occupational niches when they graduate, but rather to find meaning in their total lives through their studies, their work, their play and their personal relationships" (5)

So the development of careers service has moved from work placement to careers education - from a peripheral subject (or activity) isolated from the main curriculum, to central status.

8.2 From Work Placement to Careers Education

Careers guidance and counselling were conducted in terms of information collecting, self-awareness of interests and aptitudes and work placement in its early stage of

development. For many career advisors, the central focus of their work has been job placement and their primary task has been helping young people to find work in a contracting labour market. This main task did not change until the concept of careers education was developed in the 1970s. The central focus of career service was no longer simply on job placement, but on an integrated concept of careers guidance.

From an Isolated Subject (Activity) to Whole Curriculum

Careers education originated in the United States. As A.G.Watts and E.L.Herr pointed out, it has been seen as a curriculum reform, an ideological standpoint which attempts to influence the entire curriculum. In a comparison of careers education in Britain and the USA, Watts thought the confusion of careers education in Britain was because it still concentrated on specific curriculum. He said,

"Perhaps the basic confusion here (Britain) is between careers education as a specific curriculum centred around the concept of career decision-making, and careers education as a broader philosophical standpoint which seeks to influence the whole curriculum - and indeed the whole structure of school." (6)

Watts thought that careers education in higher education should be planned to relate to student's needs at his particular level of development and with recognition that other experiences are likely to affect his development.

"In the longer term, indeed, it may be desirable to move towards the emerging American approach of seeing career education not as a programme but as a concept aimed at a more total reform of the whole higher education system around the concept of student purposefulness and a humanistic concept of 'work'." (7)

It is an ideal that careers education should not be limited to a particular programme, and should not be the sole responsibility of careers advisors. The whole university

and all faculty teachers and staff are expected to be involved in careers education. However, this ideal is not easily realised. J. Bradley, M. Crowe and V. Scott thought an integrated career policy in schools and colleges may be expected to face numerous difficulties. First, "there is no clear consensus in educational institutions on the aims and purposes of integrated careers guidance, since the traditional role of the careers advisor has been regarded as peripheral to the main academically orientated objective of schooling." (8) Secondly, there are disagreements about the content and methods of the approach.

"The academic style adopted by many teachers seems to bear little relation to the potential employment opportunities of the majority of school leavers. With increasing pressures towards accountability most schools are forced to emphasise the examination system: there are as yet no clear criteria for evaluating the success of careers work. School and college structures - and in particular the limitations imposed by the academic timetable - make innovatory work difficult to arrange, especially if this is designed to take place outside the classroom. Perhaps most fundamentally, the underlying philosophy of the new approach to careers education and guidance is developmental and client centred. An important pre-requisite of this will be the ability of the teacher to develop and maintain a negotiated relationship with his or her students. For those who value the traditional expertise-based authority of the teacher, the new approach represents a radical rethinking of aims, objectives and methods. It has been found that some tend to regard this as an unacceptable challenge to their subject autonomy." (9).

The ambition to promote careers education from peripheral to central status was strongly suggested by N.C. Harris and J.F. Grede. They rejected the philosophy and practice that "liberal education is for making a life and vocational education is for making a living", they tried to replace the

dichotomy with dialogue. They asserted that careers education will become "not only a respectable and normal function of most colleges - it will be the central focus of college programmes, with arts and sciences education in essential supporting roles." (10)

In order to have more connections with the labour market and economy, careers guidance and counselling in universities and colleges developed rapidly in many countries in the last two decades. Dissatisfied with the task of information collecting and work placement, careers educator aspired to integrate into the university curriculum. However, there were some difficulties. First, the conflicting ideas of the function of higher education made the objectives of careers education not easy to achieve. Secondly, even though careers education was supported by many faculty members and students, there were difficulties in putting it into practice and in measuring its effects.

8.3 Careers Guidance and Counselling in Universities and Colleges in Taiwan

Taiwan's careers guidance and counselling in universities and colleges will be explored in terms of the conflicting ideas outlined above. The difficulties in the practice of careers services will also be considered. How did these conflicting ideas co-exist in higher education? How did they influence the practice of careers service and what were the effects of careers education on resolving graduates' employment problems?

Careers guidance and counselling in universities and colleges have not developed effectively in Taiwan. They are considered exotic and, the participants in higher education and the public know little of it. Career development theories and practical counselling schemes were mostly adopted from the United States. H.T.Lin indicated that career development is influenced profoundly by culture and society. The shortage of an indigenous theoretical basis in Taiwan made the work of careers guidance and counselling ineffective(11). In addition, the conventional ideology that educational institutions are only responsible for students before their graduation is an obstacle for practising careers guidance and counselling. The academic life of students is the main concern of university authorities, rather than the jobs must their graduates might obtain. Furthermore the conflicts between liberal and vocationalised higher education, between the cultural and economic functions of higher education also have serious implications in Taiwan for careers service work.

As mentioned, the most important factor in successful careers guidance and counselling, or even careers education, is the prevailing attitude towards work. If a positive attitude is not held by the public and educators, the work of careers guidance and counselling will be difficult to undertake effectively. Therefore, the employment problems of graduates can not be reduced by the operation of careers services unless attitudes change. The practice of Taiwan's careers guidance and counselling will be explored in the following section and the discussion will be undertaken in terms of attitudes towards careers education.

The Practice of Careers Guidance and Counselling in Taiwan

A model of college based careers guidance is adopted to investigate the practice of careers services in Taiwan. It was devised by S.M.Stoney and V.M.Scott to explore the nature of careers guidance within further education in Britain. According to Stoney and Scott, the model is to "identify the different elements which determine the characteristics of college-based careers system and to explore their relationship with each other and the resultant careers services." (12)

There are three sets of the determinants. They are structures, careers providers and students (Figure 8-1). They can be applied to Taiwan as follows.

Structures, which include

- (a) the Ministry of Education,
- (b) the National Youth Commission,
- (c) universities and colleges,
- (d) the Committee of Graduate Careers Guidance of university and colleges,
- (e) the Office of Graduate Careers Guidance of universities and colleges,
- (f) the departments and faculties of universities and colleges.

Careers providers, consist in

- (a) careers service personnel of the National Youth Commission,
- (b) careers advisors and counsellors in universities and colleges, and
- (c) teachers and staff of each department.

Students, while all university and college students are included, those close to graduation will be the main concern.

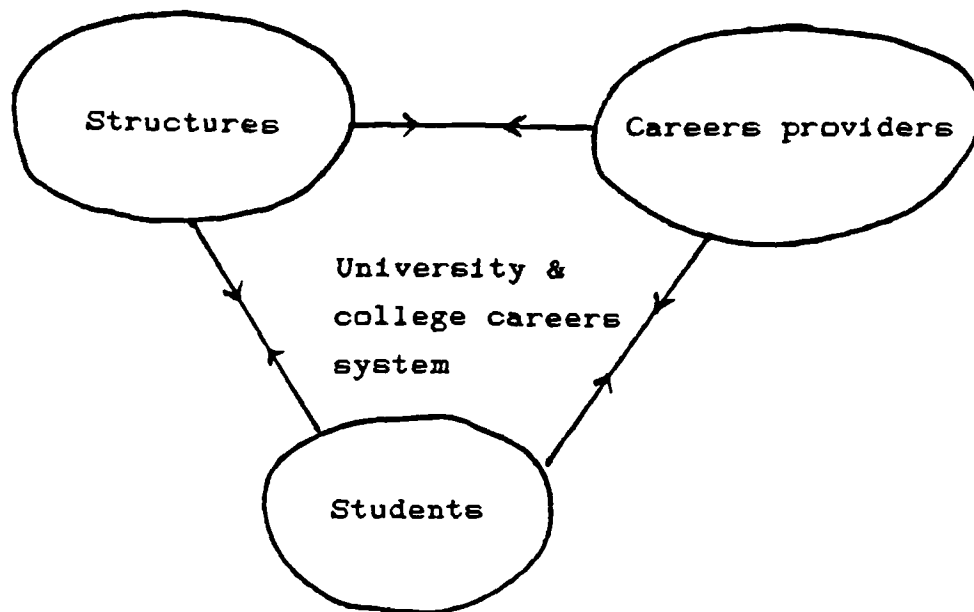


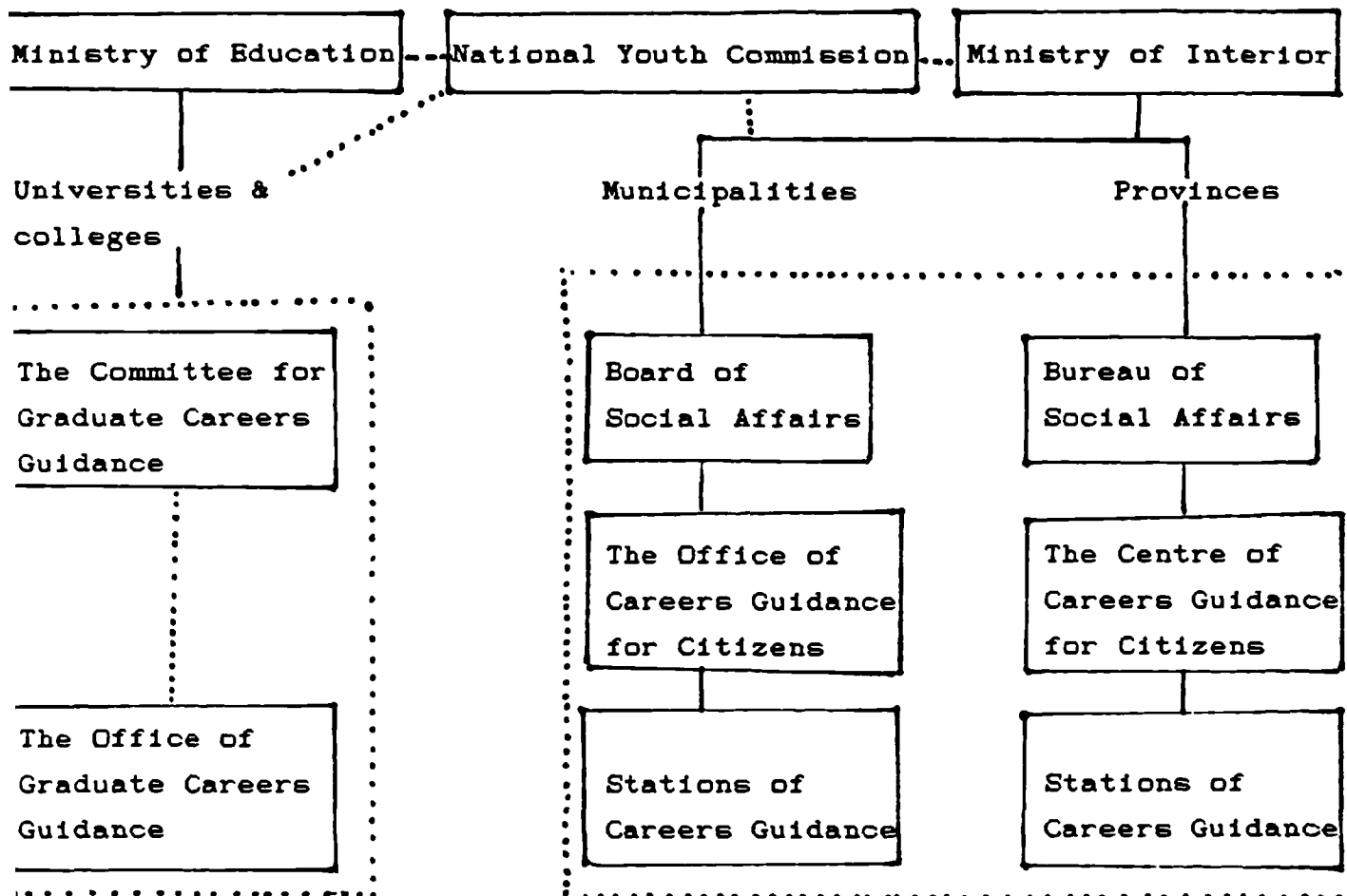
Figure 8-1 Main Determinants of the University and College Careers System

Source: adopted from Stoney, S.M. & V.M.Scott (1984) Careers Guidance in Colleges and Polytechnics - A Study of Practice and Provision, NFER - NELSON, P.17.

Structures

Careers services for graduates outside universities and colleges are the responsibility of the National Youth Commission. Inside educational institutions it is the duty of the Office of Graduate Careers Guidance. The Office is under the control of the university or college authorities which are ultimately supervised by the Ministry of Education. In addition to its responsibility to the Ministry, the Office also has to report on its work regularly to the the National Youth Commission (Figure 8-2). These Offices began to be set up in universities and colleges in 1977 by an educational act. According to the act, every university and college should have a Committee of Graduate Careers Guidance and an Office of Graduate Careers Guidance, but until the 1982 academic year, among the total twenty nine universities and independent colleges, fourteen of them did not have a committee, and nine of them had not set up an office(13). Careers guidance and counselling have not been paid much attention by the university authorities.

The disadvantaged status of careers services in universities and colleges can be linked to their limited administrative power, their lack of personnel and insufficient budget. According to the act of 1977, the Office of Graduate Careers Guidance should be under the control of the president of the university or college, and have equal status with the Office of Dean of Studies, the Office of Dean of Discipline and Guidance and the Office of Dean of General Affairs (Figure 8-3). However, many universities and colleges did not set up such office, and in those did, there were few regular meetings and little task planning.



—————: controlling and monitoring
: directing and supporting
 -----: connecting and coordinating

Figure 8-2 : The Systems of Careers Guidance and Counselling in Taiwan

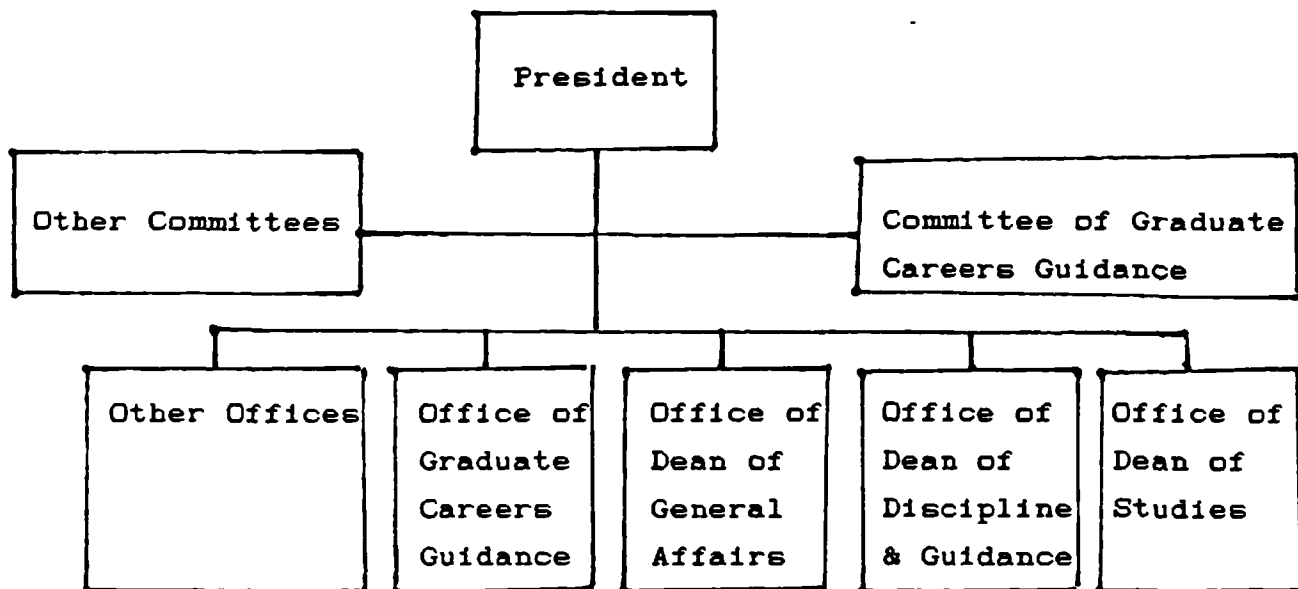


Figure 8-3 : The Legal Status of Careers Guidance in the University and College System

Among the twenty universities and colleges which set up the Offices in the 1982 academic year, seven of them are under the control of the president, two under the Office of Dean of Studies, and eleven of them are under the Office of Dean of Discipline and Guidance (14). Those Offices which not under the control of the president, by implication have reduced administrative power. Whenever a programme was developed, many advisors and counsellors responding my questionnaire in 1988 felt that as if they were asking favours of teachers and staff. This is because of the limited administrative power of the Office.

The number of personnel of Offices of Graduate Careers Guidance and their budgets are insufficient. According to a survey of the National Youth Commission, the average number of careers advisors and counsellors in universities and colleges in 1982 academic year was 2.14, which meant that every advisor and counsellor had to be responsible for 467.5 students close to graduating and 2,042 others(15). This was a heavy load for them, particularly for those who also had teaching duties. With respect to the budget the Office could get into an embarrassing situation, even worse than the shortage of personnel. In 1982 academic year, in twenty nine public and private universities and colleges, only seven Offices of Graduate Careers Guidance have a fixed budget every year. Twelve had no fixed budget but had to ask for funds from the general budget of the university when needed, and ten of them did not have any access to a budget at all (perhaps this was because some universities and colleges have not set up the Office yet)(16).

Careers Providers

Careers providers include careers service personnel of the National Youth Commission, careers advisors and counsellors in universities and colleges, and teachers and staff in each department. The main focus in this chapter is on the careers service inside universities and colleges. The main concern here is to explore the qualifications, experiences and capacity of those careers advisors and counsellors. Their expectations of the effects of the careers service and the attitudes of university teachers and staff towards careers guidance and counselling also will be investigated.

Most careers advisors and counsellors in universities and colleges are not qualified professionally in their area. According to the report of the National Youth Commission in 1984, 52.3% of them had bachelor's degree, 15.9% had master's degree and 9.1% had doctoral degree - the other 22.7% were graduates of military schools and other educational institutions (17). Their specialisations were very diverse, including literature, business management, electrical engineering, forestry and chemistry. Very few had graduated from a department of education, psychological counselling or careers development. If the varied disciplines are inevitable given the nature of careers guidance, then the professional training should be the basic requirement for their job. However, the report shows that only 12.5% university and college careers advisors had been trained professionally before they undertook the job (18). The more surprising thing is that none had had any in-service training (19).

The ability of careers advisors and counsellors is a matter of concern. Among those advisors and counsellors who

responded to the questionnaire about the tasks in which they were not competent, more than 70% chose the items such as "undertaking and analysing tests of interests, aptitudes and intelligence of students", "undertaking research on employment problems", "collecting information and analysing occupational structure and the situation of the labour market", and "finding out employment opportunities". These items are either basic to careers guidance or important in reducing the employment difficulties of graduates. Yet advisors felt unable to do them. Those tasks they said they could do effectively included "contacting careers guidance institutions (the National Youth Commission mainly)", "dealing with the registry of students for jobs and employers for graduates" and "setting up the files of students' data" (20). The careers guidance and counselling services in Taiwan are still mainly concerned with information exchange.

In such a situation, the morale of careers advisors and counsellors is low. Many are not really interested in the job. The survey mentioned above indicates that 45.5% were not committed to the job and 6.8% would like to change jobs(21). The main reasons for wanting to change jobs which emerged, from my own interviews and questionnaires, were that they felt they were not paid enough attention by and did not get enough support from university authorities, teachers and even students. Under these conditions careers advisors and counsellors could hardly work effectively. As B.Berger has noted that unless professionals in human services have themselves found psychological happiness and interpersonal satisfaction, they will simply be unable to serve these needs in their clients(22). The feeling of dissatisfaction of Taiwan's careers advisors and counsellors

has become an obstacle to helping graduates to resolve employment problems.

The assistance given by teachers and staff in academic departments to careers education is limited. C.K. Chang indicated that many teachers did not show concern for graduates' employment and they only devoted their time and energy to cultivate the academic knowledge of students. Careers education was thought to be outside their responsibilities. Administrators and heads of department concentrated on their administrative duties and considered that employment problems of students were not their concern(23). Moreover the 1987 report of the National Youth Commission indicated that the conservative conception of policy-makers in universities and colleges prevented them from paying attention to careers guidance and counselling(24).

Students

There are two aspects concerned in understanding the relationship between university students and the work of careers guidance and counselling. First is the practices adopted by students in seeking (or not seeking) careers guidance and their appreciation of the services offered by the Office of Graduate Careers Guidance. Second is the attitudes of students towards careers guidance and counselling in general.

According to a survey of 858 graduates (male graduates of 1980, finishing military service in 1982 and female graduates of 1982), 50.12% indicated that they did not know whether the Office of Graduate Careers Guidance had been set up before they graduated(25). The Office was ignored

not only by university or college authorities, but also by students. In my survey of 1988, among 127 graduates (male graduates of 1984 and female graduates of 1986), 92.1% of them had never been to the Office to seek any kind of help. In answering the question whether they thought the office functioned well, 59.1% said "no", only 27.6% of them said "yes" and 13.4% did not respond. It also explains why students would not like to go to the Office to seek help. In asking what services the Office should provide for graduates, most said "providing more information about the labour market", "providing more information about employment opportunities", "analysing and explaining the nature of occupations" and "making contacts with employers". These expectations are similar to those which careers advisors and counsellors felt incapable of meeting.

The conclusions of these surveys of students' views were that existing careers guidance and counselling offered only information exchange, but that work placement was thought by students to be more important than other functions. Students did not desire to understand their own aptitudes and occupational interests. They only expected the services to help them to find a good job.

A possible explanation for this is the separation of Students' Counselling Centre and the Office of Graduate Careers Guidance, which made students think the Office should only seek jobs for them. This suggests that the whole system for students development (such as students health centre, counselling centre, careers guidance and careers education) should be reorganised and integrated.

In addition to students lacking clear ideas about the purpose and function of the Office of Graduate Careers Guidance, the negative attitudes towards preparing for work is another obstacle to students seeking careers guidance. C.K.Chang indicated that because the influence of the belief in "examination for up-grading", students thought entering university was their main goal. After they entered universities, the goal had been achieved and they had no ideas of the importance of preparation for jobs and choosing jobs. In this situation, it is difficult to make students consider receiving careers guidance and counselling important. In addition, there is a bias existing in students' concept of careers guidance and counselling. They thought those seeking this help had inferior capacities in terms of future employment. It implies that only those students from so called "cold departments" who had difficulty in finding jobs needed this service. Therefore, to seek help from the Office of Graduate Careers Guidance was damaging to the pride and self-image of students.

8.4 The Difficulties of Careers Guidance and Counselling in University and College

After exploring the structures, the careers providers and students in universities and colleges, the difficulties in developing careers services are obvious. In two surveys of 1982 academic year, the greatest difficulties for careers advisors were as follows. Among ten items, the five greatest difficulties were (a) the shortage of personnel, (b) the limited budget, (c) lack of student interest, (d) the unsound system of careers guidance and (e) the needs of professional careers advisors(26). In my own survey in 1988, the difficulties expressed by careers advisors were

similar except that the shortage of suitable tests of occupational interests and aptitudes for Taiwan's graduates was also noted. The ideological differences underlying these difficulties should be discussed.

Careers guidance and counselling are new ideas in higher education in Taiwan. Conventionally the relationship between education and work has been very weak. Although education was a ladder for social mobility, it was not practically orientated to jobs in ancient China. This ideology has been inherited and has prevailed in Taiwanese society. Educational authorities, most teachers, students and parents are convinced that schools and universities are responsible for students before graduation only and not after. In addition, universities and colleges have been thought of by many scholars and teachers as places for cultivating general knowledge and culture. Careers guidance and counselling - a by-product of vocationalised higher education - were thus ignored. But in order to respond to the needs of economy and the labour market, higher education has been expected by government to contribute to economic growth, so Offices of Graduate Careers Guidance have been set up in universities and colleges since 1977. However, university teachers, students and even the public did not really approve of careers education. So the work of these Offices has developed without significant effect.

In discussing the difficulties of careers services, H.T.Chang said the real problem of a careers service is not caused by insufficient personnel, but by the dysfunction of these institutions or organisations. He said the problem of shortage of personnel, lack of professionalism and limited budget are less serious taken together with the negative

attitudes towards preparing for work in higher education (27). To improve the work of careers guidance and counselling, the negative attitudes should be changed. H.T.Lin contended that a long-term careers development strategy was needed for careers guidance. He suggested the concept of occupation, the positive attitudes towards work, the capacity for decision-making and problem-solving should be cultivated from the first year in university (28). This require the whole university or college staff to work together, and take a more positive attitude.

8.5 Conclusion

The government's decision to require careers services to be set up in universities and colleges indicates its intention to make higher education to contribute to economic growth. When the unemployment and underemployment of graduates became serious in the 1970s, careers services were thought of as a way to reduce these problems. However, these services were expected implicitly by government to provide graduates with information on the labour market and finally to find them jobs. Other tasks such as student self-understanding, positive attitudes towards work were not included in their objectives. This purely economic or market approach to careers services certainly was hostile to university traditions, especially since individual personal needs of students were ignored.

Traditional attitudes towards work are negative among teachers in schools and universities. University authorities do not consider themselves responsible for students after graduation. Parents do not like their children in universities to be involved in things other than

studying; and students themselves do not worry about their future jobs. All these factors created an environment in which is not easy for careers guidance and counselling to function well. Applying government policy, universities were obliged to set up careers services, but negative attitudes led the universities to give little priority to their operation.

These ideological conflicts are real problems for careers services in Taiwan's universities and colleges. To resolve the personnel and budget shortages of these services is not really difficult. The reluctant attitude of the authorities to improving these services are the main reason for their ineffectiveness.

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CONCLUSIONS

The emergence of employment problems of graduates can be explained from the economic viewpoint by mismatch between demand for and supply of graduates. However, this is only a superficial explanation of the employment problems of graduates. Underlying it is the conflict between the economic and the traditional ideologies of education. The conflict expresses itself in every aspect of the higher education system, including the system's objectives, the content of the curriculum, instruction methods and so on. Employment difficulties of graduates are just one result of this conflict.

The choice between traditional and economic values of higher education has been a longstanding dilemma for modern society. Completely reverting to traditional values of higher education in a non-traditional society is unrealistic but on the other hand overemphasising economic values in higher education would make the university no different from a technological or vocational college. The dilemma was keenly felt when policy-makers and university authorities were developing higher education.

Even though the reconciliation of the two contradictory ideologies is difficult, a balance between liberal and vocationalised higher education has been sought in many countries. In Britain, making higher education contribute to economic progress has been claimed to mitigate the previous overemphasis on the traditional liberal ideas of the university; whereas in the United States, liberal or general educational ideas were encouraged in order to reduce the contrasting overemphasis on vocationalised higher

education. In Taiwan, traditional Confucian ideas still have force in diverting higher education from an economic orientation. Achieving the balance entails the formation of a new idea of higher education which will take time.

However, devising solutions to the employment problems of graduates cannot wait. Strategies must be adopted to reduce the difficulties of graduate unemployment, but all possible aspects, not just the economic, must be considered.

In Taiwan's case, understanding the conflict between economic and traditional values of higher education will help government ascertain ways of making manpower plans effective. One possibility is that the government can seek to reduce the resistance in universities and colleges to the idea of an economic function for higher education. Another is that government can encourage industry and business to value graduate's general knowledge, analytical ability and intellectual disciplines, rather than specific knowledge and technical skills, when recruiting new entrants - emphasising that liberal higher education can still be useful in a modern society.

With regard to collaboration between university and industry, the clarification of the conflict between economic values (which industry emphasises) and traditional liberal values (which universities tend to preserve) will help government in encouraging mutual understanding and shared interests between both sides as a prelude formal collaboration.

Graduates' and undergraduates' job aspirations will become more realistic once they understand the traditional pride of

the intelligentsia will not enhance their value to an industrialised society and that they will need to be better prepared for their future jobs.

To remedy the ineffectiveness of careers guidance and counselling, government needs to promote the status of these services in the universities and encourage the teachers and students to pay more attention to them. An understanding of the conflict between traditional and economic education values is required. These services cannot be made to practise effectively simply by increasing budgets and personnel alone.

To sum up, the clarification of the conflict of economic and traditional ideas of higher education is necessary to the formulation of solutions to the graduate unemployment and underemployment problems. Solutions based on an understanding of the conflict will be more effective than those that just touch the surface of the problem.

It should also be noted that the employment problems of graduates are in practice diverse. Graduates of different departments will face different problems. For example, those who studied engineering and commerce tend to have difficulty in finding a job that is satisfactory, whereas certain humanities and arts graduates have difficulties in finding any job at all.

Moreover Female graduates have encountered employment problems somewhat different from male graduates. Sex discrimination and the male-dominated society lead to female graduates experiencing greater difficulties in finding a job and in particular higher positions. Many employers set a

limit on the number of female graduates when recruiting new entrants. Their reason is that female graduates normally have or will have family burdens and cannot devote so much effort to their work. Female graduates also face greater difficulties in finding jobs because of the subjects they studied. Many female students studied humanities and social sciences making it difficult find employment especially when the absorptive ability of the labour market for graduates is weak. In its 1986 report, the National Youth Commission indicated that more than 50% female graduates of senior vocational schools, junior colleges, independent colleges, universities and graduate schools (sample 1312) thought the subjects they studied will not help them to find jobs.

However the different problems facing graduates from different departments and the problem facing female graduates arising from subject chance can be seen to be strongly related to the conflict between traditional and economic education ideas.

The problems of graduate employment thus do not arise simply from superficial practical difficulties in the operation of the labour market but are underlain by a deep-rooted conflicts between alternative ideologies concerning the function of university education and the role of graduates in society and the economy. These conflicts and the way they operate in the university and its relation to business and society need to be understood before practical solutions to employment problems of graduates can be devised.

Appendices

Appendix 1

The procedure for distributing questionnaires to and interviewing of heads of department and university teachers

I.

Heads of department and university teachers in 24 of the total of 37 universities and independent colleges in Taiwan were sent questionnaires. Taiwan Normal University, Kaohsiung Normal College, College of Education, 9 teacher's colleges and the Institute of the Arts were excluded. The institutions of teacher education arrange jobs for their graduates, while the students of arts have different employment problems.

II.

On the 24 selected universities and independent colleges, 11 are public and 13 are private institutions. Their names are

| Public | Private |
|--|---|
| .Chengchi University | .Tunghai University |
| .Tsinghua University | .Fujen University |
| .Taiwan University | .Soochow University |
| .Chengkung University | .Chungyuan University |
| .Chunghsin University | .Tanchiang University |
| .Chiautung University | .University of Chinese Culture |
| .Central University | .Fengchia University |
| .Chungshan University | .Chingyi Women's College of Arts and Science |
| .Yang Ming Medical College | .Tatung College of Technology |
| .Taiwan Institute of Technology | .Kaohsiung Medical College |
| .College of Marian Science Technology | |

(continued)

Private

.China Medical College

.Taipei Medical College

.Chungshan Medical College

III.

All departments in the 24 universities and independent colleges were divided into 4 groups according to John Brennan and Philip McGeevor's categories(*). These categories distinguished between fields of study in the following way.

group 1: The Generalist: Possesses general work-related skills and knowledge, such as arts and humanities, social studies etc.

group 2: The Generalist Plus: Possesses general and specialist work-related skills and knowledge, such as modern languages, economics and mathematics etc.

group 3: The Occupational Generalist: Possesses general and specialist work-related skills and knowledge and an identifiable area of application, such as business studies, environmental planning.

group 4: The Occupational Specialist: Possesses general and specialist work-related skills and knowledge and a specific occupational role, such as accountancy, law and electrical engineering etc.

IV.

5 out of 28 disciplines in group 1 were selected: Chinese Literature, English Language and Literature, History, Sociology and Land Economics.

4 out of 22 disciplines in group 2 were selected: Economics, Mathematics, Chemistry and German Language.

6 out of 32 disciplines in group 3 were selected: Business Management, International Trade, Cooperative Economics, Textiles and Clothing, Horticulture and Agricultural Economics. 9 out of 38 disciplines in group 4 were selected: Accountancy, Law, Electrical Engineering, Mechanical Engineering, Oceanic Engineering, Printing Engineering, Medicine, Pharmacy and Rehabilitation Medicine. In each case, the allocation to groups was based very closely on Brennan and McGeevor.

V.

The departments in the four groups were selected

- (1) by public or private institutions
- (2) at random within each category.

VI.

78 departments were selected and 5 copies of the questionnaires were sent to the heads of department who were asked also to distribute them to other teachers.

VII.

22 of the departments replied (response rate 35.90%) and 64 of 390 questionnaires were sent back (response rate 16.41%). These responses came from 12 of the 24 institutions.

VIII. The response - institutions, departments, the number of completed questionnaire returned (the response from heads of department in brackets)

Public universities and independent colleges:

1. Taiwan University-

History 1, Horticulture 4 (1), Economics 2 (1),
Rehabilitation Medicine 1, Pharmacy 2.

2. Chengchi University:

Sociology 5 (1), Land Economics 4 (1),
Business Management 2, Accountancy 1
3.Chunghsin University: Agriculture Economics 1.
4.Yang Ming Medical College: Pharmacy 3.

Private universities and independent colleges:

5.Soochow University:

German 2 (1), Economics 5, Chemistry 5 (1).

6.Tunghai University: Business Management 1 (1).

7.Fujen University: German 5 (1).

8.University of Chinese Culture: German 3, Horticulture 5.

9.Tanchiang University: International Trade 4.

10.Fengchia University: Mechanical Engineering 1.

11.Chungyuan University: Chemistry 1 (1).

12.Tatung College of Technology: Mechanical Engineering 4 (1).

IX. The Interviews

From 22 departments from which completed questionnaires were received, 10 university teachers agreed to be interviewed. They were 2 from the department of sociology and 2 from the department of business management in Chengchi University; 2 from the department of German language and 2 from the department of chemistry in Soochow University; 1 from the department of international trade in Tanchiang University and 1 from the department of mechanical engineering in the Tatung College of Technology. Four of these ten respondents were heads of department.

(*) adopted from Brennan, J. & P.McGeevor (1988) Graduates at Work - Degree Courses and the Labour Market, London, Jessica Kingsley, P.49.

Appendix 2

The procedure for distributing questionnaires to and interviewing of graduates

I.

Among 11 public universities and public independent colleges, Taiwan University was selected to send questionnaires to graduates; and among 13 private universities and private independent colleges, Tanchiang University was selected.

II.

Graduates of the two universities were selected from those departments had been sent questionnaires. All graduates of those departments (1984 males and 1986 females) were sent questionnaires. Since male graduates have military service after graduation, they enter the labour market with female graduates who graduated two years later. Each department has about 30-50 graduates per year.

III. The response

(1) Taiwan University

Number of questionnaires sent out: 460

83 usable responses were received

Response rate 18.04%

Departments and the number of the respondents:

| | |
|---------------------|---|
| Chinese Literature | 6 |
| History | 5 |
| Economics | 8 |
| Mathematics | 3 |
| Chemistry | 2 |
| International Trade | 4 |
| Horticulture | 5 |

(continued)

| | |
|-------------------------|----|
| Agriculture Economics | 2 |
| Law | 16 |
| Electrical Engineering | 9 |
| Mechanical Engineering | 2 |
| Medicine | 11 |
| Pharmacy | 5 |
| Rehabilitation Medicine | 5 |

(2) Tanchiang University

Number of questionnaires sent out: 260

44 usable responses were received

Response rate 16.92%

Departments and the number of the respondents:

| | |
|------------------------|----|
| Chinese Literature | 1 |
| Mathematics | 2 |
| German | 9 |
| International Trade | 7 |
| Cooperative Economics | 5 |
| Accountancy | 8 |
| Mechanical Engineering | 10 |

IV. The Interviews

10 graduates were interviewed. 6 were from Taiwan University, and had graduated from the departments of Chinese literature, economics, chemistry, international trade, law and mechanical engineering; 4 were from Tanchiang University, and had graduated from the department of mathematics, German language, accountancy and mechanical engineering.

Appendix 3

The procedure for distributing questionnaires to and interviewing of careers counsellors in universities and independent colleges.

I.

Careers counsellors in the 24 universities and independent colleges were sent questionnaires.

II. Responses to the questionnaire

(1) Total number of public institutions which questionnaires were sent: 11

The number of response: 4

They were

Chunghsin University

Chiautung University

Yang Ming Medical College

College of Marine Science Technology

(2) Total number of private institutions which questionnaires were sent: 13

The number of response: 9

They were

Fujen University

Soochow University

Chungyuan University

Tanchiang University

Chingyi Women's Colleges of Arts and Science

Kaohsiung Medical College

Chungshan Medical College

China Medical College

Taipei Medical College

III. The general information of careers counsellors

(1) Educational background of careers counsellors: (Number)

| No degree | Bachelor | Master | Ph.D. |
|-----------|----------|--------|-------|
| 3 | 1 | 8 | 1 |

(2) Specialisation: No.

| | |
|------------------------|---|
| Educational psychology | 1 |
| Public administration | 1 |
| Philosophy | 1 |
| Physical education | 1 |
| Mathematics | 1 |
| Military affairs | 1 |
| Counselling | 3 |
| Economics | 1 |
| Mechanics | 2 |
| Physics | 1 |

(3) Age: (number)

| | |
|-------|---|
| 36-40 | 7 |
| 41-45 | 4 |
| 46-50 | 0 |
| 51-60 | 2 |

(4) Sex:

Male: 9 Female: 4

IV. The interviews

Among the 13 respondents, 5 of them agreed to be interviewed. They were from the Chungsin University, College of Marine Science Technology, Fujen University, Soochow University and Taipei Medical College.

N.B. These are translation of the original questionnaires that were in Chinese.

Appendix 4.

Questionnaire A - To heads of department and university teachers

(*: Question 17 and 23 were adopted from Fulton, O., A. Gordon and G. Williams (1982) Higher Education and Manpower Planning - A Comparative Study of Planned and Market Economies, Geneva, UNESCO, International Labour Offices, P.23 and PP.29-30.

Question 32 was adopted from Survey on Destinations of 1984 and 1985 Graduates of Universities and Junior Colleges, Taipei, National Youth Commission, June, 1987.)

Please tick at () and write down your opinions at _____

1.Title of university/colleges _____

2.Faculty _____

3.Department _____, Division _____

4.The department was set up in _____(year)

5.Your position in the department is

()a.head of the department

()b.full professor

()c.assistant professor

()d.lecturer

()e.assistant lecturer

()f.other _____

6.How long have you been in a teaching position in this department? _____

7.Your highest educational qualification is _____

8.The courses you are teaching are _____, _____,
_____, _____

9.Excluding assistant lectures, how many teachers in this
department? _____

10.The number of students in the department is

first year students _____

second year students _____

third year students _____

fourth year students _____

fifth year students _____*

sixth year students _____*

(* : for law and medicine departments)

11.The numbers of the enrolments in your department in the
past five years were

()increasing, reasons: _____

()decreasing, reasons: _____

12.The average rate of drop out in the past five years is _____

13.The main reasons for drop out are _____

14.The number of students who transferred to other departments
each year is about _____, the majority went to
departments of _____, _____, _____

15.The number of students who transferred from other
departments every year is about _____, most of them
were from the departments of _____, _____,
_____.

16.In making suggestions to the Ministry of Education about
increasing or decreasing the number of enrolments, did
your department ever refer to the manpower plans or
forecasts made by the Council for Economic Planning and
Development?

() Yes

() No, then what are the principles in deciding the number
of enrolments _____

17. Concerning whether manpower planning should guide the development of higher education, what is your opinion?

- () a. Higher education makes extremely heavy demands on society's resources, if it did not follow manpower planning, it will make inefficient and inequality in educational investment.
- () b. Higher education itself has vocational implications to students, therefore the manpower planning is necessary.
- () c. The amount of information required and the frequent changes brought about by technological progress and social changes make it impossible to assemble the data necessary to make useful manpower forecasts.
- () d. There is no clear relationship between the economic activity of an individual and his educational qualification, therefore the manpower planning is not necessary.
- () e. Other _____

18. How many credits a student must achieve before graduation? _____

Among them the number of the compulsory credits are _____, the number of optional credits are _____.

19. Who has the power to decide the number of the enrolments in the department?

- () a. Principal
- () b. Head of faculty
- () c. Head of department
- () d. Professors/lecturers
- () e. Other _____

20. The content of curriculum in the department was decided by

- () a. head of department
- () b. teachers themselves
- () c. academic meeting
- () d. other _____

21. You think the practical usefulness of the curriculum in your department to the employment of graduates is

- () a very practical
- () b. practical
- () c. not practical at all

22. Please list the most practical courses in the department for the employment of graduates.

23. These are four opinions on whether preparing students for work, please choose the one which you think most appropriate.

- () a. After finishing the courses of higher education, students may acquire specific knowledge and skills which they are able to use directly in subsequent employment.
- () b. Higher education does not teach specific occupational skills but rather provides students with a general intellectual background which enables them to learn quickly the specific skills required in the job which eventually they will find themselves.
- () c. Higher education neither provides specific skills nor general intellectual training but rather is the final stage of a process of selection of young people with the basic intellectual attributes that are required in professional, administrative, scientific and technical jobs.
- () d. There is no much link between higher education and graduates' employment. The purpose of higher education is the personal development of the individual student.

24. Given the nature of your department, do you think it is necessary to adjust the content of the curriculum to the development of economy and the needs of the labour market?

() Yes

() No, why? _____

25. Do you think the curriculum of the department can provide students with the latest knowledge of academic, scientific or industrial development?

() Yes

() No

26. Is there any collaborative research with industry (or the sector which graduates are most probably find jobs) undertaken in the department?

() Yes, please list the programmes _____

() No

27. Is there any collaboration with industry in the department to provide opportunities for teachers and students to gain practise and experience in the real world of work?

() Yes, then normally how long? _____

() No

28. Does the department exchange the latest knowledge and information with industry?

() Yes, in what way? _____

() No, reasons _____

29. Is there any channel between the department and industry in helping graduates getting jobs?

() Yes, what channel? _____

() No, then normally how do graduates of this department find jobs? _____

30. Generally speaking, how long did it take graduates of the department to find their first jobs after graduation (male graduates after military service)?
- () a. immediately
 - () b. 2-3 months
 - () c. 4-5 months
 - () e. half a year
 - () f. more than half a year
31. The degree of difficulty for graduates of the department in finding a job is
- () a. very difficult
 - () b. difficult
 - () c. easy
 - () very easy
32. You think the greatest difficulty for graduates of the department in finding jobs is
- () a. the subjects studied lack of employment opportunities
 - () b. the competition for job is acute
 - () c. having no work experience
 - () d. lack of professional skills
 - () e. lack of qualifications (such as medical or legal qualifications)
 - () f. lack of information about the labour market
 - () g. other _____
33. Does the department provide the information about the labour market to graduates?
- () Yes, then where is this information from? _____
 - () No

34.Does the department keep a record of graduate employment or unemployment?

() Yes, then how to contact with graduates? _____

() No, reasons: _____

35.Did teachers in the department ever recommend graduates for jobs?

() Yes

() No

36.As far as you know, the extent of the relationship between the subjects graduates studied and the jobs they undertake is

()a.very related

()b.related

()c.little related

()d. no relation at all

37.Please give us any opinions and suggestions about the employment of graduates which have not been mentioned.
Thank you for your help.

Appendix 5

Questionnaire B - To graduates

(*: Question 11, 13 and 27 were adopted from Survey on Destinations of 1984 and 1985 Graduates of Universities and Junior Colleges, Taipei, National Youth Commission, June, 1987.)

Pleas tick at () and write down your opinions at _____

1.Title of university _____

2.Faculty _____

3.Department _____, Division _____

4.Name _____

5.Age _____

6.Sex: ()Male, ()Female

7.Education of your parents:

| | Father | Mother |
|-----------------------|--------|--------|
| None | () | () |
| Primary education | () | () |
| Junior high school | () | () |
| Senior high school | () | () |
| Junior college | () | () |
| University (Bachelor) | () | () |
| Master and doctor | () | () |

8.Occupations of your parents:

Father _____, Mother _____

9.Your job _____, Position _____

10.How long did it take you to find first job after graduation or military service?

- ()a immediately
- ()b.2-3 months
- ()c.4-5 months
- ()d.half a year
- ()e.over half a year

11.The way you found your job was

- ()a through newspaper advertisement
- ()b passing governmental examinations
- ()c recommended by university/college teachers
- ()d introduced by governmental careers guidance institutions
- ()e introduced by private careers guidance centres
- ()f introduced by relatives, classmates and family
- ()g.else _____

12.Have you ever changed jobs?

- () Yes
- () No

13 If you ever changed jobs, the reasons are (multiple choices):

- ()a losing previous job
- ()b.difficult to get along with colleagues
- ()c.being unable to apply knowledge learned in university/college to job
- ()d.salary is too low
- ()e.unsuitable work post
- ()f searching for promotion opportunities
- ()g searching for a job to use talent
- ()h.other _____

14.Your present salary is _____

15.Are you satisfied with your salary?

- ☐ a very satisfied
- ☐ b.satisfied
- ☐ c.acceptable
- ☐ e.not satisfied at all

16.Do you feel underemployed (overeducated for the present job)?

- ☐ Yes
- ☐ No

17.To your job, your university study is

- ☐ a very practical
- ☐ b.practical
- ☐ c.not practical at all

18.To what extent do you think there is a relationship between your present job and the university courses you studied?

- ☐ a very related
- ☐ b mostly related
- ☐ c.half related
- ☐ d little related
- ☐ e no relation at all

19.Please list the subjects you studied that are most practical to your present job

_____, _____, _____

20.Do you think the university courses you studied enable you acquire the latest knowledge of academic, scientific and industrial development?

- ☐ Yes
- ☐ No

21. Did your department ever provide the opportunities for students to work in a workplace when you were studying there?

☐ Yes, did you ever take the opportunity? how long were you there? and is there any advantage for your present job? _____

☐ No

22. From what you know, was there any channel between the department and industry/corporations/businesses to help graduates get jobs?

☐ Yes, What kind? _____

☐ No

23. Did your department ever provide the information about the labour market and employment opportunities to students before your graduation?

☐ Yes

☐ No

24. Have you ever been to the Careers Guidance and Counselling Office seeking help?

☐ Yes

☐ No

25. Do you think the Careers Guidance and Counselling Office are effective in helping graduates finding jobs?

☐ Yes

☐ No, then what are your expectations of the office? _____

26. Generally speaking, the degree of difficulty of graduates in your department in finding jobs is

☐ a. very difficult

☐ b. difficult

☐ c. easy

☐ d. very easy

27.The greatest difficulties for graduates of your department in finding job are

- ()a.the subjects studied lack of employment opportunities
- ()b.the competition for jobs is acute
- ()c.having no work experience
- ()d.lack of professional skills
- ()e.lack of suitable qualifications (for instance, the medical and legal qualifications)
- ()f.lack of information about the labour market
- ()g.other _____

28.From your experience in the employment market, you think the number of enrolments of your department should

- ()increase, reasons _____
- ()decrease, reasons _____

29.Please give us any opinions and suggestions concerning the employment problems of graduates which have not been mentioned. Thank you for your cooperation.

Appendix 6

Questionnaire C- To careers counsellors in universities and
independent colleges

(*: Question 24 was adopted from Survey on Destinations of
1984 and 1985 Graduates of Universities and Junior
Colleges, Taipei, National Youth commission, June, 1987.)

Please tick at () and write down your opinions at _____.

1. Title of university or college _____
2. Sex _____, Age _____
3. Highest educational qualification _____, Major _____
4. How many years have you been working as a careers
counsellor? _____
5. The careers guidance and counselling office in your
university/college was set up in _____ (year)
6. How many personnel in your office? _____
7. The main task of your office is: _____
8. What is the average percentage of students seeking of
guidance and counselling every year? _____
9. Is there any career registry section or separate careers
counselling room in your office?
() Yes,
() No, then where does the careers guidance and counselling
take place? _____
10. Does some of the work of your office overlap with that of
the Students Counselling Centre?
() Yes, then is some work of your office done by
that centre?
() Yes
() No
() No

11. Has your office collected students' scores in aptitude, interest, intelligence and personality tests?
- ☐ Yes, then is the data from:
- ☐ the Students Counselling Centre.
- ☐ Testing students.
- ☐ No
12. Has your office published sheets or booklets to introduce the work of your office or to provide information about the labour market?
- ☐ Yes, how many issues within one year? _____
- ☐ No
13. Has your office ever held seminars to discuss the problems of employment?
- ☐ Yes, how often? _____
- ☐ No
14. Has your office ever invited experts in industries and businesses to come the university/college to make speeches on career development or the needs of the labour market?
- ☐ Yes
- ☐ No
15. Has your office ever actively investigated the opportunities for employment of graduates?
- ☐ Yes, then what are the major difficulties? _____
- ☐ No, Why? _____
16. Does corporations/businesses or governmental institutions recruit graduates through your office?
- ☐ Yes, do they happen often?
- ☐ Yes
- ☐ No
- ☐ No

17.What measures does your office normally take when corporations/businesses or governmental institutions ask for graduates?

18.What is the average success rate of those being introduced to corporations/businesses or governmental institutions by your office? _____

19.Has your office kept files of graduates' employment?

() Yes, then how do you get the information? _____

() No

20.Has your office undertaken follow-up studies on graduates employment after they enter the labour market?

() Yes, then how do you do it? _____

() No

21.Has your office undertaken research on the employment problems of graduates?

() Yes

() No, why not? _____

22.From which departments do students most often seek guidance from? _____, _____, _____

23.What is worrying students most when they seek guidance and counselling? _____

24.From your experience, the greatest difficulty students experience in finding jobs are:

() a.the subjects they learned lack of employment opportunities

() b.competition for jobs is acute

() c.having no work experience

() d.lack of professional skills

() e.having no suitable qualifications (for instance, medical or legal qualifications)

() f.lack of labour market information

() g.other _____

25.What value do you think students place on your office?

() great value

() some value

() no value at all, reasons: _____

26.What is the greatest difficulty you face in your job?

27.Could you give us any opinions and suggestions about the
employment of graduates which have not been mentioned?

Thank you for your help

Questionnaire A

系主任：

您好！很抱歉耽誤您寶貴之時間。我是政大教育研究所碩士班73年畢業之學生，目前就讀於英國倫敦大學教育學院國際比較教育學系攻讀博士學位，藉暑假期間返台做些問卷調查研究，以補充論文資料。我目前撰寫之題目是有關勞動市場與高等教育之研究，是以欲瞭解大學生自學校轉移至工作的歷程中各學系所扮演之角色與發揮之功能。因此盼望您能撥空填寫下面之問卷且不吝指教，此外並麻煩您將其餘四份問卷轉交熟悉系務之四位教授（或副教授、講師、助教）填寫。

本問卷純粹做私人學術研究之用，內容應無涉及隱密之事，您可安心填答，由於財力、能力因素，本問卷發出數量有限，因此您的意見對我來說是相當珍貴的，盼望您於填寫完畢後請助教連同其餘四份於二星期內一併寄回，回郵之信封已附於信函中。謝謝您的幫忙！此外，九月份開學後，或許會選擇貴系大四學生做另一份問卷，祈屆時您也能不吝協助！再次謝謝您，並祝暑期愉快清新。

沈 嫻 嫻 敬上

七七年七月八日

填寫問卷說明：

1)請在下列()內勾選一適當之答案，並於劃線部份寫上您的意見。

2)本研究專為私人研究用途，無對外發表之虞，請安心填答。

1.學校名稱 _____

2.學 院 _____

3.科 系 _____ 組別 _____

4.本系設立於民國 _____ 年

5.您在本系擔任之職務是

()①系主任

()②教 授

()③副教授

()④講 師

()⑤助 教

()⑥其 他 _____

6.您在本系任教已有 _____ 年

7.您的最高學歷是 _____

8.您目前任教之課程為 _____， _____

_____， _____

9.本系講師以上之人數為 _____

10.本系學生人數：大一 _____ 人

大二 _____ 人

大三 _____ 人

大四 _____ 人

五年級 _____ 人

六年級 _____ 人 (醫學院或其他)

11.教育部核准本系新生入學人數近五年來是

() 增加，原因：_____

() 減少，原因：_____

12.本系學生之輟學率每年約為百分之 _____

13.本系學生輟學之主要原因為 _____

14.本系每年轉入他系之學生數約為 _____，所轉入之系大多為 _____， _____， _____。

15.本系每年自他系轉入之學生數約為 _____，所轉自之系大多為 _____， _____， _____。

16.本系於建議教育部增加或減少招生名額時，是否曾參考經建會或其他單位所編製之人力預估或人力發展計畫？

() 是

() 否，則增減名額所持之依據為 _____

17.對於是否需參照人力計畫作為高等教育培育人才之依據，您較贊同下列那一種看法？

() ①高等教育耗費相當多的社會資源，若不依據人力計畫培育適當人才，則會出現無效率及不均等現象。

() ②高等教育對大學生來說，即具有未來職業預備之涵意，是以應有人力規畫作為前導。

() ③科技進展及社會之急遽變化使得蒐集必須之資料以擬定有用之人力計畫十分困難，是以實無必要以人力計畫作為高等教育培植人才之參考。

() ④個人之經濟活動（或能力）與其教育資歷實際上並無太大之關係，是以進行人力規畫並非十分需要。

() ⑤其他 _____

3.本系學生畢業至少需修畢多少個學分？_____，其中必修學分數為_____，選修學分數為_____。

4.本系若欲新設或停開某門課程，其決定權在於

- ☐ ①校長
- ☐ ②院長
- ☐ ③系主任
- ☐ ④教授或講師
- ☐ ⑤其他_____

5.本系課程內容之決定權在於

- ☐ ①系主任
- ☐ ②任課教師
- ☐ ③系務會議或教學會議
- ☐ ④其他_____

6.您認為本系所開設之課程對學生未來之就業

- ☐ ①非常實用
- ☐ ②實用
- ☐ ③不實用

請列舉您認為本系中對畢業生未來就業最為實用之課程_____，_____。

23.對於高等教育是否應為學生未來職業之準備，有下列四種不同之看法，請選出您認為最適當者。

() ①經由高等教育課程之學習，學生應可獲得專業知識與技能，以便於畢業後直接應用於工作上。

() ②高等教育並不教授專業技能，而應授予學生一般之知識與智慧，使其足以於就業後迅速學得工作所需之專業技術。

() ③高等教育既不是供應專業技能之機構，也不是傳授一般知識、智慧之場所，它只是根據智力選拔青年的最後一個階段而已。而此種智力乃是專業的、行政的、科學的及技術的工作所必需。

() ④高等教育與學生未來之就業無一定之關聯，其目的只在於學生本身之發展而已。

24.根據本系之性質，您認為本系之課程內容是否需隨着經濟發展與勞動市場之需求而調整？

() 是

() 否，原因：_____

25.您認為本系之課程是否能讓學生獲得學術、科技或工商業發展之最新知識？

() 是

() 否

是否經常與工商企等業（或學生未來可能從事之行業）進行共
究計畫，以促使學術與工商發展？

）是，請列舉目前正進行之計畫_____

）否

、是否與工商企等業合作，供予教師及學生至實際工作場所實習
會？

）是，則實習期間為多久？_____

）否

系是否經常與工商企等業交換最新勞動市場發展之資訊？

）是，以何種方式進行？_____

）否，原因：_____

系與工商企業間是否有任何管道（或方式）協助畢業生獲得工作
會？

（ ）是，何種管道（方式）？_____

（ ）否，則畢業生通常以何種方式尋找職業？_____

就一般而言，本系學生於畢業後（男生於退役後）花在尋找第一個
工作之時間約為：

（ ）①立即

（ ）②二～三月

（ ）③四～五月

（ ）④半年

（ ）⑤半年以上

31.本系畢業生找尋工作之難易程度為：

- ☐ ①非常困難
- ☐ ②困難
- ☐ ③容易
- ☐ ④非常容易

32.您認為本系畢業生找尋工作最困難之原因可能是

- ☐ ①所學缺少就業機會
- ☐ ②競爭的人太多
- ☐ ③缺乏工作經驗
- ☐ ④缺乏專業技能
- ☐ ⑤缺乏任用資格
- ☐ ⑥缺乏勞動市場訊息
- ☐ ⑦其他 _____

33.本系是否提供勞動市場之就業機會訊息予以應屆畢業生？

- ☐ 是，則系上自何處獲得這些訊息？_____
- ☐ 否

34.本系是否建立畢業生就業、失業之檔案資料，以瞭解學生畢業後之情況？

- ☐ 是，則如何與畢業生保持聯繫？_____

- ☐ 否，原因：_____

35.本系之教師們是否經常為畢業生引荐工作？

☐ 是

☐ 否

36.就您所知，本系畢業生之所學與其從事之行業其相關程度是

☐ ①非常相關

☐ ②相 關

☐ ③些許相關

☐ ④不相關

37.本問卷或有疏失之處，請提出您的建議及看法，謝謝您！

Questionnaire B

敬啟者：

您好！抱歉耽誤您寶貴之時間，我是政大教育研究所碩士班73年畢業學生，目前就讀於英國倫敦大學教育學院國際比較教育學系博士班。於暑假期間返台做些問卷調查研究，我目前撰寫之題目是有關高等教育與勞動市場需求之問題，是以想瞭解您自畢業（或退伍）後尋找工作之歷程及目前就業之情況。

以過來人之經驗，我深深明瞭對於各式各樣之問卷您一定感到煩厭，而填答與寄回又增加您的麻煩，再此只能向您說抱歉與感激了。由於能力、財力所限，本問卷發出之對象不多，是以您的意見對我來說是相當寶貴，因此麻煩您於填寫完後二週內寄回，隨函已附上了回郵信封。

本問卷完全是私人研究性質，並不公開也無對外發表之虞，故您可安心填答！謝謝您的幫忙，並祝一切
順利愉快。

沈 嫻 嫻 敬上

七七年七月八日

填寫問卷說明：

請於（ ）內拘選適當之答案，並於劃線部份寫出您的意見。

1.畢業大學名稱：_____

2.學 院：_____

3.系 組：_____系 _____組

4.姓 名：_____

5.年 齡：_____

6.性 別：（ ）男，（ ）女

7.您父母之教育程度：

| | 父 | 母 |
|------------|-----|-----|
| 無 | () | () |
| 小 學 | () | () |
| 初中或國中 | () | () |
| 高中或高職 | () | () |
| 專科（二、三、五專） | () | () |
| 大 學 | () | () |
| 大學以上 | () | () |

8.您父母目前之職業：

父 _____，母 _____

9.您目前所從事之工作為 _____，職位 _____

10.您自畢業（或退伍）後，尋找第一份工作所花費之時間為：

- ☐ ①立即
- ☐ ②二～三月
- ☐ ③四～五月
- ☐ ④半年
- ☐ ⑤半年以上

11.您找尋工作之途徑為：

- ☐ ①報紙廣告
- ☐ ②參加政府考試
- ☐ ③師長及學校推介
- ☐ ④政府就業機構輔導
- ☐ ⑤民間職業介紹所
- ☐ ⑥親友、同學、家人介紹
- ☐ ⑦其他 _____

12.您是否曾更換工作？

- ☐ 是
- ☐ 否

13.若您曾更換工作，促使您更換之原因為：

- ☐ ①失去了上一份工作
- ☐ ②與同事相處不融洽
- ☐ ③學非所用
- ☐ ④薪水太低
- ☐ ⑤工作地點不合適
- ☐ ⑥尋求更好之升遷機會
- ☐ ⑦尋求更適合自己之才能
- ☐ ⑧其他 _____

14.您目前之月薪為台幣 _____ 元

15.您對目前之薪水覺得

- ☐ ①很滿意
- ☐ ②滿意
- ☐ ③普通
- ☐ ④不滿意

16.對於目前所從事之工作，您是否有大才小用之感覺？

- ☐ 是
- ☐ 否

17.您認為大學系上所開設之課程，對您之就業

- ☐ ①非常實用
- ☐ ②實用
- ☐ ③不實用

18.您目前所從事之工作與您在大學所修課程之相關程度是

() ①極大

() ②頗大

() ③一半

() ④少許

() ⑤沒有

19 請列舉所學課程中對目前工作最實用之科目

20.您認為所學之課程能否使您獲得學術、科技或工商業發展之最新知識？

() 是

() 否

21.在您就讀期間，系上是否與工商企等業合作，提供學生至實際工作場所實習之機會？

() 是，則您曾在那兒實習？時間多久？對您目前工作有何幫助？

() 否

22.就您所知，系上是否與工商企等業建立管道以協助畢業生獲得工作機會？

() 是，何種管道？

() 否

23. 在您畢業前，系上是否曾提供勞動市場就業機會訊息予以應屆畢業生？

() 是

() 否

24. 畢業前，您是否曾至畢業生就業輔導室或學生輔導中心尋求職業指引？

() 是

() 否

25. 您認為畢業生就業輔導室是否發揮了協助畢業生獲得適當工作之功能？

() 是

() 否，則您期望它能進行那些工作，以協助您的學弟妹尋找工作？

26. 一般來說，本系畢業生找尋工作之難易程度為

() ① 非常困難

() ② 困難

() ③ 容易

() ④ 非常容易

27.您認為本系畢業生找尋工作最困難之原因可能是

()①所學缺少就業機會

()②競爭的人太多

()③缺乏工作經驗

()④缺乏專業技能

()⑤缺乏任用資格

()⑥缺乏勞動市場訊息

()⑦其他_____

28.根據就業市場之需求，您認為本系之招生名額應該

()增加，理由_____

()減少，理由_____

29.本問卷或有疏失之處，請提出您的建議及看法，謝謝您。_____

Questionnaire C

主任：

您好！很抱歉耽誤您寶貴之時間。我是政大教育研究所碩士班73年畢業之學生，目前就讀於英國倫敦大學教育學院國際比較教育學系攻讀博士學位，藉暑假期間還在做些問卷調查研究，以補充論文資料。我目前撰寫之題目是有關勞動力市場與高等教育之研究，是以欲瞭解大學生自學校轉入至工作的歷程中畢業生就業輔導室所扮演之角色而發揮之功能。因此盼望您能撥空填寫下面之問卷且不忘指教。謝謝您，並祝暑期清新愉快。

填寫問卷說明：

請於()內勾選出您認為適當之答案，並於劃線部份寫出您個人之意見。

1. 學校名稱 _____

2. 您的性別 _____ 年齡 _____

3. 您的最高學歷為 _____ 主修 _____

4. 您從事於職業輔導工作已有 _____ 年。

5.貴輔導室成立於民國_____年。

6.目前之編制有主任_____人，組員_____人，職員_____人。

7.貴輔導室之主要工作內容為：

8.每年至輔導室尋求職業指引之學生佔全校學生比例為百分之_____

9.貴室是否設置了就業輔導登記櫃台或職業諮商室？

()是

()否，則職業諮商通常都是在那兒進行？_____

10.貴室之職業輔導或諮商工作是否與學生輔導中心之工作部份重疊？

()是，則是否部份諮商工作由輔導中心代為施行？

()是

()否

()否

11.貴室是否充分蒐集學生性向、興趣、智力、人格等測驗資料備用？

()是，則這些資料之來源為：

()自學生輔導中心借用現成資料。

()自行施測。

()否

12.貴室是否發行刊物以建立學生正確之職業觀念，提供就業訊息或介紹貴室之工作內容？

()是，則多久出刊一次？_____

()否

13.貴室曾否舉辦學生職業討論或座談會？

() 是，則一年舉辦幾次？_____

() 否

14.貴室是否經常邀請專家、工商界人士及校友來校作專題演講或職業座談。

() 是

() 否

15.貴室是否主動進行工作機會調查？

() 是，則所遭遇之最大困難為_____

() 否，原因：_____

16.一般企業廠商或機關團體若需補充職員，是否會主動與貴室聯繫？

() 是，機會是否很多？() 是，() 否。

() 否

17.於收到工商界或機關團體之募員訊息時，貴室通常是如何處理？

18.由貴室引荐之工作，成功率為_____

19.貴室是否建立應屆畢業生就業、失業之檔案記錄？

() 是，則以何種方式獲得訊息？_____

() 否

20.貴室是否對就業登記畢業生於就業後進行追蹤輔導之工作？

() 是，則以何種方式進行？_____

() 否

21.貴室是否從事畢業生就業問題之研究？

() 是

() 否，則困難之原因為 _____

22.尋求職業輔導之學生，人數較多的是來自那些系？

_____, _____, _____。

23.尋求職業輔導之學生所焦慮之事大多為 _____

24.來貴室尋求輔導之學生找尋工作所遭遇到之最大困難可能在於

() ①所學缺乏就業機會。

() ②競爭的人太多。

() ③缺乏工作經驗。

() ④缺乏專業技能。

() ⑤缺乏任用資格。

() ⑥缺乏就業市場訊息。

() ⑦其他 _____

25.您認為就業輔導室受到學生重視之程度為

() ①相當重視。

() ②重視。

() ③不重視，原因是 _____

26.您於從事就業輔導工作，感覺到最大之困難在於 _____

27.本問卷或有疏失之處，請提出您的建議及看法。謝謝您。

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